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ABSTRACT

This teacher's guide is part of a multiculturally sensitive teaching package to promote health-enhancing nutrition concepts for Florida public high school students. These nutrition promotion materials are intended to be incorporated into life skills management, home economics, physical education, or life science classes. The guide includes strategies to enhance coverage of topics included in the related 30-minute videotape, "High Five." The videotape incorporates high need and interest nutrition topics within a format preferred by high school students. It is intended to spark high school students' interest. Topics included in the videotape are preparing quick, healthy meals and snacks with an emphasis on: proportion of calories from protein, fat, and carbohydrates; what constitutes a balanced meal; and eating healthy on the run. The videotape also discusses the long-term health consequences of an unhealthy diet, nutrition and fitness, eating disorders, and food and the environment. The 10 educational plans included in the guide are: (1) "Eating Healthy with the Food Guide Pyramid"; (2)" Eating Healthy on the Run"; (3) "Reading Food Labels"; (4) "Diet and Heart Disease"; (5) "Diet and Hypertension"; (6) "Diet and Cancer"; (7) "Healthy Vegetarian Diets"; (8) "Compulsive Overeating"; (9) "Acting on Bulimia Nervosa"; and (10) "Starving for an Appetite--Anorexia Nervosa." (SM)

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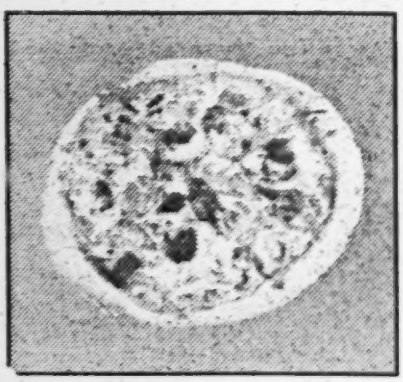
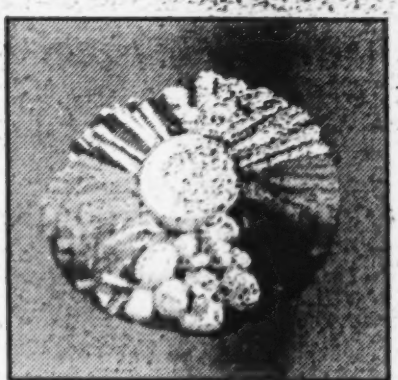
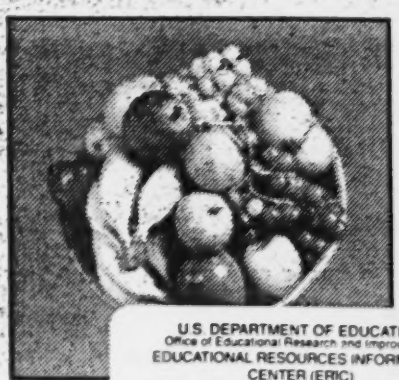
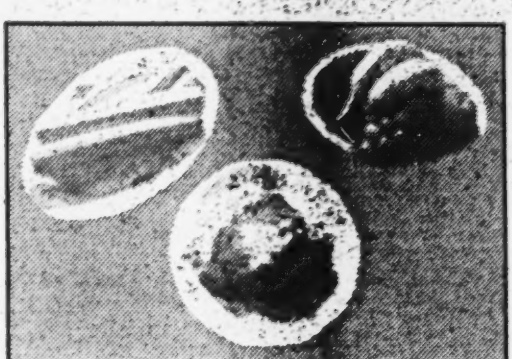
HIGH FIVE:

A Nutrition Promotion Program for High School Youth









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HIGH FIVE
A Nutrition Promotion Program for High School Youth

This project was performed pursuant to a grant from the Florida Nutrition Education and Training (NET) Program, State of Florida Department of Education, to the University of Florida Department of Health Science Education. NET funds are provided by the U.S. Department of Agriculture through the Nutrition Education and Training Program (P.L. 102-341), an amendment to the Child Nutrition Act.

This program is available to all persons regardless of age, color, handicap, national origin, religion, race, or sex. Persons who believe they have been denied equal opportunity for participation may write to: Administrator, Food and Nutrition Service, U.S. Department of Agriculture, 3101 Fort Center Drive, Alexandria, Virginia 22302.

PROJECT DEVELOPED BY

Barbara A. Rienzo, PhD, Project Director
Department of Health Science Education
Box 118210 University of Florida
Gainesville, FL 32611-8210

Carol Frazee, MS, CFCS
Nutrition Education and Training Program Coordinator
Florida Department of Education

Delores C.S. James, PhD, RD, LD, Co-Principal Investigator
Department of Health Science Education, University of Florida

Marilyn Maple, PhD, Coordinator Educational Media Projects
Health Science Center, University of Florida

PROJECT CONSULTANTS

Lina Ingraham, MA, CFCS, LSI, Inc., Jacksonville, Florida
K.T. Curren, The SOURCE, Sarasota, Florida
J'amy Peterson, MS, RD, LD,Gadsden County Schools, Quincy, Florida
Diane Scalise, MS, RN, Broward County Schools, Ft. Lauderdale, Florida

Research Assistants:
Allison Dubin and Laurie Shields

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SPECIAL THANKS TO:
The students and teachers from
Fort Lauderdale, Gainesville, Jacksonville, Quincy, and Sarasota
who participated in focus groups and pilot-testing.

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HIGH FIVE

A Nutrition Promotion Program for High School Youth

TEACHER GUIDE

DEVELOPED BY

Delores C.S. James, PhD, RD, LD
Barbara A. Rienzo, PhD
Department of Health Science Education, University of Florida

TECHNICAL ASSISTANCE AND REVIEW

Carol Frazee, MS, CFCS, NETP Coordinator
Florida Department of Education

Lina Ingraham, MA, CFCS, LSI Associates
Jacksonville, Florida

Research Assistants
Allison Dubin and Laurie Shields

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INTRODUCTION

Project Goal and Objectives

The goal of "High Five: A Nutrition Promotion Program for High School Youth" was to develop an educationally valid, multiculturally sensitive videotape and teaching strategies for promotion of health-enhancing nutrition concepts for Florida public high school students. These nutrition promotion materials are intended to be incorporated into life skills management, home economics, physical education, or life science classes. Of course, teachers and/or school administrators may use these materials in any classes they deem appropriate.

Development of these materials included completing several sub-objectives. A review of current scientific literature about nutritional education need of high school youth, and interviews with focus groups of representative high school students from three geographical areas within Florida—Panhandle, South Florida (Fort Lauderdale) OR mid- (Orlando) and NE (Jacksonville) were conducted. The promotional videotape, "High Five" incorporates high need and interest nutrition topics within a format preferred by the high school students. The videotape is intended to spark the high schoolers' interest. The enclosed educational plans were developed to include strategies for more extensive coverage of topics introduced in the videotape. Each is user-friendly for teachers in any of the classes cited above. This guide also includes a referral lists of educational resource materials available through the Florida DOE and from other state and national organizations.

We are grateful to several professionals who served as expert consultants on this project. They were:

Ms. Lina Ingraham	nutrition, family and consumer economics, and media development
Dr. Marilyn Maple	media (videotape) production
Ms. Jamie Peterson	Gadsden County Schools Food Service
Ms. K. T. Curren	teen theater (Sarasota)
Ms. Diane Scalise	Broward County Schools Health Education

Content Description

Topics that were incorporated into the thirty-minute video script as much as possible included (listed in order of importance): preparing quick, healthy meals/snacks with an emphasis on a) the proportion of calories that should come from protein, fat, carbohydrates, b) what constitutes a balanced meal, and c) eating healthy "on the run"; the long-term health consequences of an unhealthy diet (heart disease, cancer, stroke, etc.); nutrition and fitness; eating disorders; and, food and the environment.

The ten educational plans included were pilot-tested with two teachers and assessed for their content (current, accurate); developmental appropriate for most 9-10th grade students' age and maturity level; importance for most students at the 9-10 grade level;

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and, interest appeal for most students at the 9-10th grade level. Both results of the pilot tests and feedback from a national meeting presentation documented that the plans were well-conceived and received.

We suggest that as many of the plans be used as possible, though all can stand on their own as independent sessions. The order we suggest teaching the concepts includes:

"Eating Healthy with the Food Guide Pyramid"
"Eating Healthy on the Run"
"Reading Food Labels"
"Diet and Heart Disease"
"Diet and Hypertension"
"Diet and Cancer"
"Healthy Vegetarian Diets"
"Compulsive Overeating"
"Acting on Bulimia Nervosa"
"Starving for an Appetite—Anorexia Nervosa"

Feedback

This package included a self-addressed, stamped postcard for providing teachers' assessment of these materials. Please take the time to complete the postcard and return it. If the card is not included, please send your comments to: NET Coordinator, 1032 Florida Education Center, 325 West Gaines Street, Tallahassee, FL 32399-0400.

This project was performed pursuant to a grant from the Florida Nutrition Education and Training (NET) Program, State of Florida Department of Education, to the University of Florida Department of Health Science Education. NET funds are provided by the U.S. Department of Agriculture through the Nutrition Education and Training Program (P.L.102-341), an amendment to the Child Nutrition Act. This program is available to all persons regardless of age, color, handicap, national origin, religion, race, or sex. Person who believe they have been denied equal opportunity for participation may write to: Administrator, Food and Nutrition Service, U.S. Department of Agriculture, 3101 Port Center Drive, Alexandria, Virginia 22302.

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EATING HEALTHY WITH THE FOOD GUIDE PYRAMID

GRADE LEVEL/POPULATION *Grade 9-12*

MATERIALS AND RESOURCES

Food Guide Pyramid handout
Overhead transparency of the National Dietary Guidelines
Make-A-Meal handout
Sample Menu handout
Sample foods
Serving cups

OBJECTIVES

By the end of the class period, the students will be able to:

1. identify foods within each of the six categories of the Food Guide Pyramid.
2. list number and sizes of servings in each category of the Food Guide Pyramid.
3. discuss the Food Guide Pyramid and the Dietary Guidelines for Americans.
4. create a daily menu based on the Food Guide Pyramid recommendations.

INTRODUCTION

The Food Guide Pyramid replaced the "four food groups" as the recommended eating guidelines for Americans. The Pyramid helps individuals apply the National Dietary Guidelines. The Guidelines are recommended eating patterns for healthy Americans two years of age or older. They focus on maintaining a diet that is sufficient in nutrients without excesses. The Pyramid portrays these guidelines, and is intended to enable individuals to visualize a healthful diet. The Guidelines and Pyramid encourage people to eat a variety of foods to obtain essential nutrients and calories necessary to maintain healthy weight. The purpose of this lesson is to enable students to recognize and apply the principles depicted in the Food Guide Pyramid so that they can plan nutritional meals.

CONTENT

I. DIETARY GUIDELINES FOR AMERICANS

- Eat a variety of foods
- Balance the food you eat with physical activity; maintain or improve your weight
- Choose a diet low in fat, saturated fat, and cholesterol
- Choose a diet with plenty of grain products, vegetables, and fruits
- Choose a diet moderate in sugars
- Choose a diet moderate in salt and sodium
- If you [are an adult and] drink alcoholic beverages, do so in moderation

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II. THE FOOD GUIDE PYRAMID

A. Bread, Rice, Cereal, & Pasta (6-11 servings)

1. Types of foods:

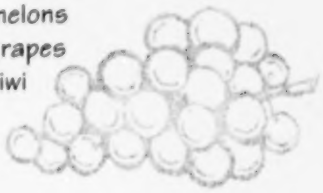
pasta	oats	hamburger buns
bread	rice	hot dog buns
cereals	granola	bagels
barley	rye	waffles

2. Serving Size
   a. 1 slice of bread
   b. 1 ounce of ready-to-eat cereal
   c. 1/2 cup of cooked cereal, rice, or pasta

B. Fruit Group (2-4 servings)

1. Types of foods:

apples	cantaloupe	tomatoes	bananas
pears	blackberries	blueberries	melons
grapefruit	oranges	pineapple	grapes
raspberries	strawberries	watermelon	kiwi



2. Serving size
   a. 1 medium apple, banana, orange
   b. 1/2 cup of chopped, cooked, or canned fruit
   c. 3/4 cup of fruit juice

C. Vegetable Group (3-5 servings)

1. Types of food

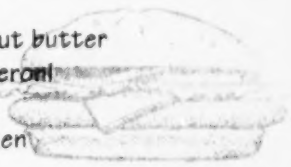
collard greens	navy beans	onion	celery
eggplant	asparagus	cabbage	leeks
green beans	beets	carrots	corn
lettuce	lima beans	broccoli	cauliflower
cucumber	mushrooms	okra	brussel sprouts
parsnips	peas	peppers	potatoes

2. Serving Size
   a. 1 cup of uncooked, leafy vegetables
   b. 1/2 cup of other vegetables, cooked or chopped raw
   c. 3/4 cup of vegetable juice

D. Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts (2-3 servings)

1. Types of food

beef	pork	pot roast	peanut butter
bacon	fish	turkey	pepperoni
eggs	steak	sausage	nuts
hamburgers	chick peas	lentils	chicken



2. Serving Size
   a. 2-3 ounces of cooked lean meat, poultry, or fish
   b. 1/2 cup of cooked dry beans
   c. 2 tablespoons of peanut butter

E. Milk, Yogurt, and Cheese (2-3 servings)

1. Types of food

milk	ice-cream	cheese
butter	buttermilk	yogurt
ice milk	skim milk	chocolate milk

2. Serving Size
   a. 1 cup of milk or yogurt
   b. 1 1/2 ounces of natural cheese
   c. 2 ounces of process cheese

F. Fats, Oils, & Sweets
   Use sparingly! Have these foods occasionally.

Also: Remember to drink six to eight glasses of water daily.

LEARNING ACTIVITIES

1. Lecture-discussion on content using overhead transparencies provided. Pass out copies of the Food Guide Pyramid. Use sample foods (real or imitation) to demonstrate food serving sizes (15 minutes).

2. Form student groups of 4 or 5 students per group. Give each group the "Make-A-Meal" worksheet. Instruct each group to create breakfast, lunch, and dinner based on the suggested components and serving sizes portrayed in the Food Guide Pyramid. Every food may not be used; some may be repeated, but students should attempt to use as many different foods as possible to create meals that would be acceptable and satisfying for teenagers. The students should indicate serving sizes and method of food preparation (baked, grilled, steamed, fried, with butter, without butter, etc.). (20 minutes)

3. Group share their meal plans with the entire class.

4. As homework, students may be asked to analyze their meals for one day using the Pyramid as a guide.

EVALUATION

Check students' choices for each meal and correct inappropriate food combinations, sizes, or preparation which conflicts with the recommendations based on the Pyramid. Teachers can ask class members to check each group plan. Students' personal dietary choices (from homework assignment) can be evaluated in the same manner.

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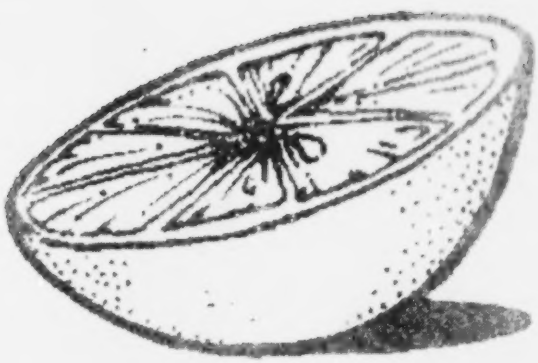
WRITING ASSIGNMENT

Students will compose a healthy menu and a less-than-healthy menu for one day. Write an essay comparing and contrasting the two, highlighting why the healthy menu is a better choice based on the food guide pyramid. Students should include reasons that appeal to teenagers.

NOTES:



Test Questions

1. To which food group does peanut butter belong?
   A. The fruit group
   B. The nut group
   C. The meat, poultry, fish, dry beans, eggs, and nut group
   D. The vegetable group

2. Which of the following is true?
   A. 4-6 servings from the bread, rice, cereal, and pasta group is recommended
   B. 7-9 servings from the vegetable group is recommended
   C. 3-5 servings from the fruit group is recommended
   D. 2-3 servings from the milk, yogurt, and cheese group is recommended

3. List the seven Dietary Guidelines For Americans

4. Which of the following is a correct serving size from the vegetable group?
   A. 1 cup of cooked, leafy vegetables
   B. 3/4 cup of vegetable juice
   C. 1/2 cup of raw, leafy vegetables
   D. 1 cup of non-leafy vegetables, cooked or raw

5. The base of the Food Guide Pyramid consists of which group?
   A. Fats, oils, and sugars
   B. Fruit and vegetables
   C. Bread, rice, cereal, and pasta
   D. Meat and Dairy group

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ANSWER KEY: C, D, n/a, B, C

MAKE A MEAL

Apples	Fish	Pita Bread
Bagels	Grapes	Pizza
Bananas	Green Peas	Potatoes
Biscuits	Ice Cream	Salad Dressing
Black Beans	Ice Milk	Shrimp
Broccoli	Lean Ground Beef	Skim Milk
Brown Rice	Lentils	Spinach
Brussel Sprouts	Lettuce	Split Peas Soup
Butter	Low Fat Milk	Steak
Cabbage	Mayonnaise	Strawberries
Carrots	Oatmeal	Taco Shell
Cereals	Okra	Tomatoes
Cheese	Orange Juice	Tortillas
Chicken	Pasta	Turkey
Chicken Noodle Soup	Peanut Butter	Vegetable Soup
Collard Greens	Pears	Vegetarian Chili
Cottage Cheese	Pineapples	Watermelon
Eggs	Pinto Beans	Whole Wheat Bread

WHEN PLANNING A DIET CHOOSE FOODS THAT HAVE LOTS OF VITAMINS AND MINERALS. VARIETY, MODERATION, AND BALANCE ARE SOME OF THE KEYS TO PLANNING A MEAL!!!

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SAMPLE MENU

BREAKFAST	Serving Size
LUNCH	**Serving Size**
DINNER	**Serving Size**
SNACK	**Serving Size**

Check List for Food Groups

	Food Group	# of Servings In Daily Menu	Did menu meet recommended daily servings? (Y/N)
1.			
2.			
3.			
4.			
5.			

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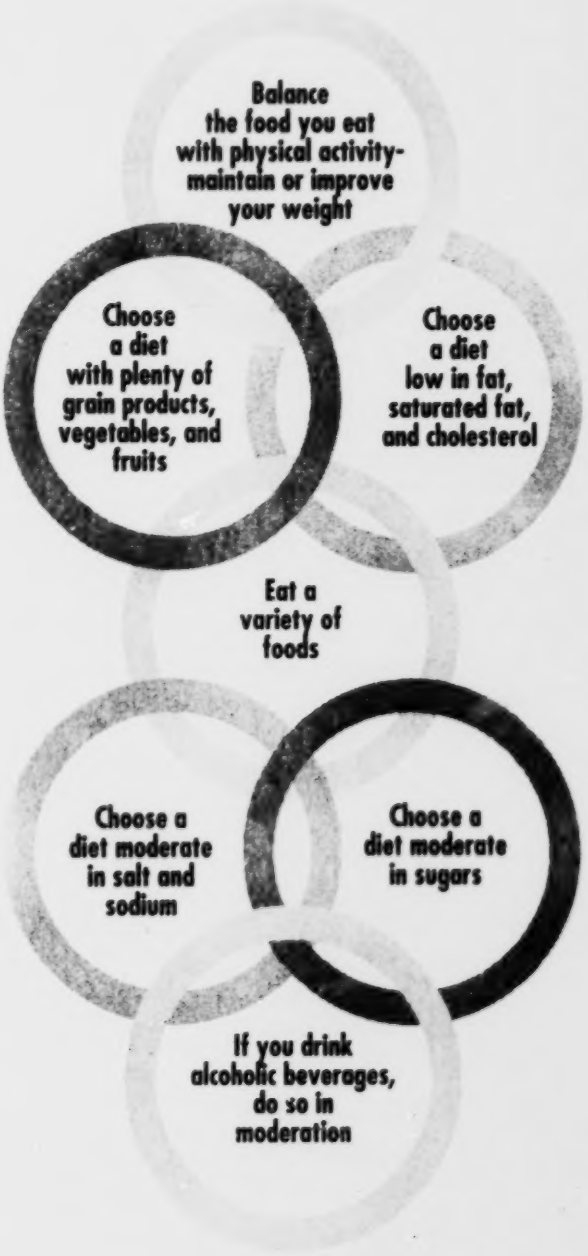
Nutrition and Your Health:



Dietary Guidelines for Americans

Food Guide Pyramid

A Guide to Daily Food Choices

Fats, Oils, & Sweets
USE SPARINGLY

KEY
▫ Fat (naturally occurring and added)
▪ Sugars (added)
These symbols show that fat and added sugars come mostly from fats, oils, and sweets, but can be part of or added to foods from the other food groups as well.

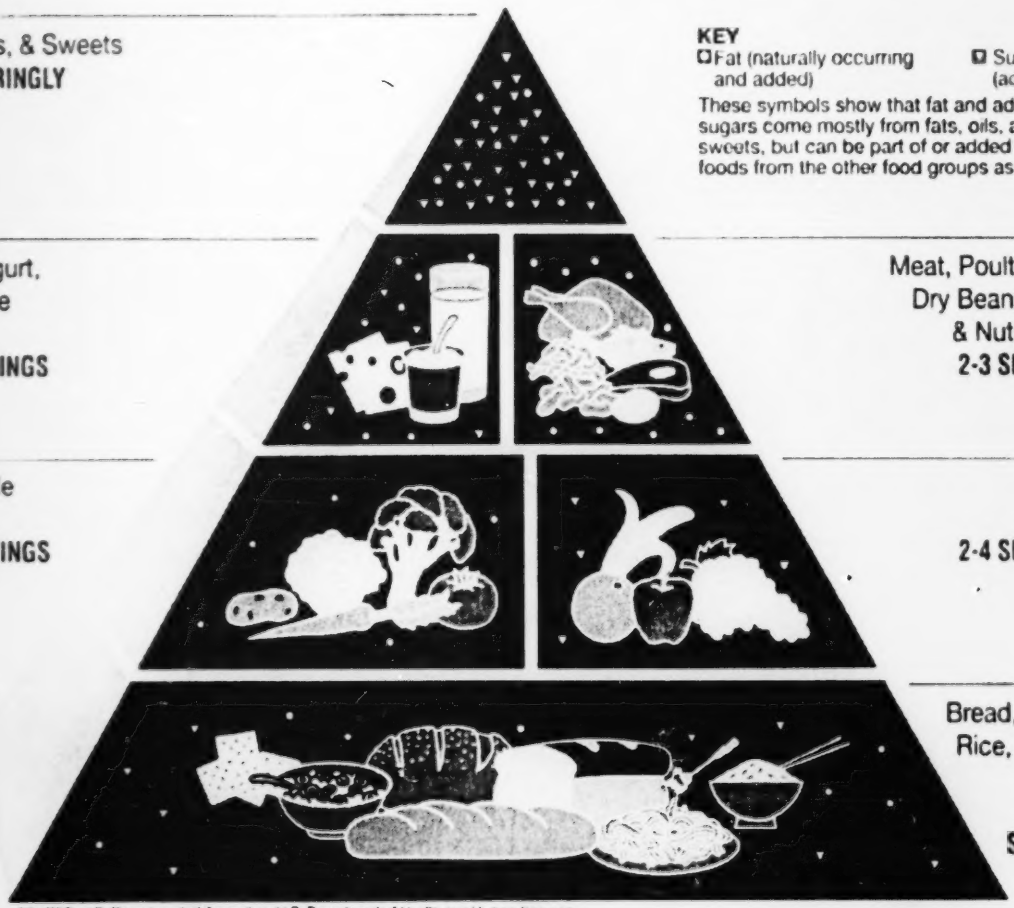
Milk, Yogurt, & Cheese Group
2-3 SERVINGS

Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group
2-3 SERVINGS

Vegetable Group
3-5 SERVINGS

Fruit Group
2-4 SERVINGS

Bread, Cereal, Rice, & Pasta Group
6-11 SERVINGS



SOURCE: U.S. Department of Agriculture/U.S. Department of Health and Human Services

Use the Food Guide Pyramid to help you eat better every day. . .the Dietary Guidelines way. Start with plenty of Breads, Cereals, Rice, and Pasta, Vegetables, and Fruits. Add two to three servings from the Milk group and two to three servings from the Meat group.

Each of these food groups provides some, but not all, of the nutrients you need. No one food group is more important than another — for good health you need them all. Go easy on fats, oils, and sweets, the foods in the small tip of the Pyramid.

To order a copy of "The Food Guide Pyramid" booklet, send a $1.00 check or money order made out to the Superintendent of Documents to: Consumer Information Center, Department 159-Y, Pueblo, Colorado 81009.

U.S. Department of Agriculture, Human Nutrition Information Service, August 1992, Leaflet No. 572

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How to Use The Daily Food Guide

What counts as one serving?

Breads, Cereals, Rice, and Pasta
1 slice of bread
1/2 cup of cooked rice or pasta
1/2 cup of cooked cereal
1 ounce of ready-to-eat cereal

Vegetables
1/2 cup of chopped raw or cooked vegetables
1 cup of leafy raw vegetables

Fruits
1 piece of fruit or melon wedge
3/4 cup of juice
1/2 cup of canned fruit
1/4 cup of dried fruit

Milk, Yogurt, and Cheese
1 cup of milk or yogurt
1-1/2 to 2 ounces of cheese

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts
2-1/2 to 3 ounces of cooked lean meat, poultry, or fish
Count 1/2 cup of cooked beans, or 1 egg, or 2 tablespoons of peanut butter as 1 ounce of lean meat (about 1/3 serving)

Fats, Oils, and Sweets
LIMIT CALORIES FROM THESE
especially if you need to lose weight

The amount you eat may be more than one serving. For example, a dinner portion of spaghetti would count as two or three servings of pasta.

How many servings do you need each day?

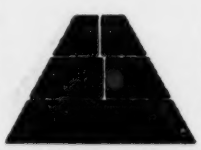
	Women & some older adults	Children, teen girls, active women, most men	Teen boys & active men
Calorie level*	about 1,600	about 2,200	about 2,800
Bread group	6	9	11
Vegetable group	3	4	5
Fruit group	2	3	4
Milk group	**2-3	**2-3	**2-3
Meat group	2, for a total of 5 ounces	2, for a total of 6 ounces	3 for a total of 7 ounces

*These are the calorie levels if you choose lowfat, lean foods from the 5 major food groups and use foods from the fats, oils, and sweets group sparingly.

**Women who are pregnant or breastfeeding, teenagers, and young adults to age 24 need 3 servings.

A Closer Look at Fat and Added Sugars

The small tip of the Pyramid shows fats, oils, and sweets. These are foods such as salad dressings, cream, butter, margarine, sugars, soft drinks, candies, and sweet desserts. Alcoholic beverages are also part of this group. These foods provide calories but few vitamins and minerals. Most people should go easy on foods from this group.



Some fat or sugar symbols are shown in the other food groups. That's to remind you that some foods in these groups can also be high in fat and added sugars, such as cheese or ice cream from the milk group, or french fries from the vegetable group. When choosing foods for a healthful diet, consider the fat and added sugars in your choices from all the food groups, not just fats, oils, and sweets from the Pyramid tip.

EATING HEALTHY ON THE RUN

GRADE LEVEL/POPULATION *Grades 9-12*

MATERIALS AND RESOURCES

Menus with nutrition information from local fast food restaurants

OBJECTIVES

By the end of the class period, students will be able to:

1. select foods and develop meal plans that are nutritionally sound for occasions when there is not a lot of time to prepare a meal.
2. develop three breakfast meals that can be prepared quickly and, if necessary, taken with them to school.
3. identify healthier food choices available from local fast food restaurants.

INTRODUCTION

In today's society, eating nutritious meals is not among the highest priorities of adolescents. In part, this situation can be attributed to teens' busy lifestyles, both due to having parents in the work force and to the increase in single-parent families. Teens are more responsible for preparing their own meals and tend to eat out at fast food restaurants. However, convenient food choices don't necessarily result in healthy food choices. It is important for teenagers to understand how popular fast food chain restaurant items can affect their health. The purpose of this lesson is to enable teens to analyze the nutritive value of fast foods, to identify healthier choices when they eat out, and to develop nutritionally sound meals that they can prepare.

CONTENT

I. FACTORS THAT INFLUENCE ADOLESCENTS' INTAKE

Research documents that family eating practices are among the most important influences, both positive and negative, on the food habits of adolescents. Family disorganization that leaves teens on their own with respect to eating fosters poor eating habits. Strained family relationships may cause either parent or adolescent to avoid mealtimes to avoid conflicts.

Adolescents whose diets are the poorest are those who eat alone or with friends. Adolescents are frequently involved in after-school activities, athletic programs, and employment, and which results in snacking. About one-quarter to one-third of teens' total calories are typically consumed between meals. This may result in skipped meals. Breakfast is the most frequently skipped meal. The evening meal appears to be the most regularly eaten meal. Adolescents from minority, lower-income families, and older adolescents miss more meals than other adolescents.

While the basic foundation for eating starts in the family, teens are also very influenced by advertising. By the time they become teenagers, they have watched 10 years of televi-

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sion and other types of advertisements. Studies have shown the nutritional content of foods on television are of low nutritional value, and are predominantly high in fat and sugar.

II. TEENS AND BREAKFAST

Breakfast is the most important meal of the day and is considered the foundation of healthy eating habits.

Studies show that eating breakfast is associated with:

- strength and endurance in the late morning;
- improved physical performance;
- increased alertness and attentiveness;
- increased concentration;
- better performance on tests; and,
- improved grades.

Studies also document the following negative effects from not eating breakfast:

- headaches;
- stomach cramps;
- irritability;
- poor concentration; and,
- fatigue.

For people on a diet, studies show that skipping a meal does not help lose weight. In fact, skipping breakfast increases the chance of overeating later in the day. Thus, people should not skip breakfast.

III. IDEAS FOR QUICK, HEALTHY BREAKFASTS

A. Build a breakfast or lunch around nutritional foods that are ready-to-eat or take little preparation time, such as fresh and canned fruits, yogurt, cheese, cold cereals, sandwiches, hard boiled eggs, crackers, instant breakfast drinks, and low-fat breakfast bars.

B. People who do not feel hungry in the morning can breakfast by drinking juice, one-percent or skimmed milk, yogurt shakes, or instant breakfast drinks. Better yet, combine fruit juices or fruits with milk in a blender. Eating something is better than nothing.

C. People who do not have time to eat should take breakfast food with them. Another time-saving strategy is to make breakfast and/or lunch the previous night.

IV. IDEAS FOR QUICK, HEALTHY SNACKS OR MEALS

- vegetarian pizza with low fat cheese
- veggieburger (in the frozen foods section)
- baked french fries
- hamburger with salad (use low fat dressing)

- sandwich with salad (use low fat mayonnaise)
- potato baked in the microwave (puncture with fork to prevent exploding)
- tuna salad & chicken salad (low fat mayonnaise)
- baked chicken (no skin)
- low fat, low sodium frozen dinners
- spaghetti with vegetable sauce or low fat meat sauce
- low fat, low sodium canned soups

V. EATING OUT

Studies of money spent in all U.S. restaurants show that half is spent at fast food restaurants. The average American spends approximately $250 a year on fast foods. Since it is unlikely that teens will not consume fast food, they need to be able to make healthier choices when dining out at these establishments.

The following guidelines will result in more nutritionally sound eating:

1. Limit fried foods.
2. Choose a baked potato instead of french fries. If ordering butter and/or sour cream, obtain it separately and use small portions.
3. Eat a salad more often with a hamburger instead of french fries.
4. Order salad dressings on the side. Dip the fork in the dressing and then pick up some salad with it.

5. Limit foods with heavy sauces and high-fat cheese. Ask for lighter amounts or for them to be served "on the side."
6. Eat fewer pizzas with lots of meat. Instead choose plain cheese or select vegetables as toppings.
7. Choose frozen yogurt instead of ice cream.
8. Share a dessert with a friend instead of eating a whole one.
9. Order water with lime or lemon wedges instead of high sugar drinks.
10. Save food to eat at another time by asking to have leftovers wrapped.
11. Do not add salt at the table.
12. Choose low-fat vegetarian (meatless) entrees more often.
13. Choose low-fat pasta dishes.
14. Have fresh fruit for dessert.

LEARNING ACTIVITIES

1. Lecture-discussion on content material (15-20 minutes).

2. Have students obtain or provide them with copies of nutritional analysis of menu items from fast food restaurants. (If the fast food restaurants in your community do not have paper menus to take home, ask selected students to visit these restaurants prior teaching this lesson and copy the food selection on a sheet of paper to share with the class). Have students analyze the nutritional value of the menu

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choices at their community's fast food restaurants. Ask them to make up meal orders that are "typical" for teens and to decide which healthier foods could be ordered instead of items that have little nutritional value. (15-20 minutes).

3. Assign students to interview a parent or other significant adult about what that person typically orders from a fast-food restaurant. Have the student (perhaps with the adult) nutritionally analyze their choices. Have the student identify healthier alternatives for those choices with little nutritional value. Students can share their experiences with this assignment in the next class.

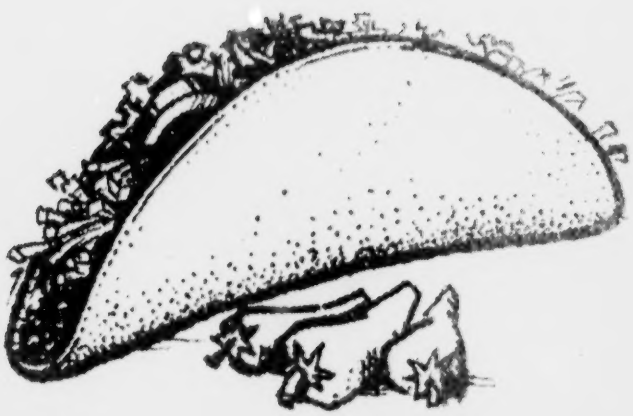
EVALUATION

Assess the students' meal choices and their recommendations for others and make appropriate recommendations where necessary.

WRITING ASSIGNMENT

Students will write a "suggestion" letter to their favorite fast food restaurant's manager. The letter should include their ideas for improving the menu so that the healthier selections are more appealing to teen-agers and for improving or adding food choices that would be more nutritionally sound.

NOTES:



Test Questions

1. Which of the following is not a factor that influences adolescents eating habits?
   A. Advertising
   B. Easygoing family relationships
   C. Extracurricular activities
   D. Financial status

2. Which of the following is false?
   A. Skipping meals helps you lose weight.
   B. Side effects from not eating breakfast includes: headaches, stomach cramps, irritability, poor concentration, and fatigue.
   C. Benefits of eating a healthy breakfast include: increased concentration, better performance on tests, increase in physical performance, alertness, and attentiveness.
   D. Breakfast is considered to be the most important meal of the day.

3. Which of the following should an adolescent do to fit breakfast into his/her busy schedule?
   A. Eat breakfast at the lunch break.
   B. Stop at a fast food restaurant on the way to school to pick something up.
   C. Convince parent/guardian to get up and fix breakfast for them.
   D. Make breakfast the night before.

4. Which is of the following is the best example of a healthy snack or meal?
   A. Chicken wings
   B. Pizza with cheeese
   C. Baked french fries
   D. Canned soup

5. Which of the following is a good guideline to follow when eating out?
   A. Eat French Fries with meat dishes.
   B. Choose pasta dishes with sausage.
   C. Only eat cheese vegetarian entrees.
   D. Order salad dressings on the side.

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ANSWER KEY: B, A, D, C, D

READING FOOD LABELS

GRADE LEVEL/POPULATION *Grades 9-12*

MATERIALS AND RESOURCES

Overhead projector and transparencies or a chalkboard
Activity sheets
Food labels from packages or cans and/or empty food packages

OBJECTIVES

By the end of the class period, the student will be able to:

1. explain the nutrition fact panel on the food labels.
2. list at least two of the health claims that are used on the food labels.
3. analyze important components of the diet through reading a food label.

INTRODUCTION

The changing American family structure has had a tremendous impact on teenage eating behavior. In particular, the increase of mothers in the work force has influenced many teenagers to become responsible for shopping and preparing family meals. Studies show that teenagers usually do not read food labels, and that if they do so, their interest is limited to the fat and calorie content of the product. The purpose of this lesson is to enable students to analyze and apply ways in which food labels empower them to make healthy food choices.

CONTENT

I. READING FOOD LABELS

A. Check the ingredients list.
The label must list the ingredients in descending order of predominance by weight. Therefore, a good tact for assessing the general quality of a food is to look at the first three ingredients—these are present in the largest quantity.

B. Check serving size.
Serving sizes are based on the amount normally consumed by a person four years of age or older. Any package that contains less than two servings is considered a "single-serving" item. The nutritional information listed is based on one serving of the packaged item.

C. Check the daily values.
Daily Values (DV) are written as percentages of selected nutritional criteria—the number of calories, total fat, saturated fat, cholesterol, total carbohydrate, protein, and dietary fiber—a person gains by eating one serving of the food item. The daily values are based on recommended amounts a person should ingest daily and are based on eating 2000 calories per day.

For a 2000 calorie diet a person should consume:

Less than 65 grams of fat
Less than 20 grams of saturated fat
Less than 300 milligrams of cholesterol
Less than 2400 milligrams of sodium
300 grams of total carbohydrate
25 grams of dietary fiber

It should be noted that factors such as height, weight, activity level, and gender need to be considered in finding a person's true needs of these various nutritional criteria. For example, the following information can used as general references for computing personal caloric needs:

Calories needed	Personal Characteristics
1600	sedentary (inactive) women; older adults
2200	most children, teenage girls, active women, and many sedentary men
2800	most teenage boys, many active men, and some very active women

D. Check the vitamins and minerals listed.
Vitamins A and C, calcium, and iron are the only vitamins and minerals that must be listed on the food label.

II. Health Claims On Food Labels.

The federal government (Food and Drug Administration) has approved four health claims that may be placed on food labels. These claims are generally listed to encourage consumers to purchase the particular item for its health benefits. The approved claims are:

1. "A diet high in fat may lead to heart disease."
2. "A diet high in fat may lead to some cancers (breast, colon, and prostate)."
3. "A diet high in sodium may lead to high blood pressure."
4. "A diet high in calcium may help prevent osteoporosis (brittle bones)."

LEARNING ACTIVITIES

1. Lecture-discussion (posing and addressing student questions) on content material (20 minutes).

Use the sample food label (overhead transparency) to teach students how to read the food labels. Have students locate nutritional information such as the calories, fat, cholesterol, sodium, and fiber content on the label.

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2. Use the activity sheets which follow to have students compare the nutritional content of different foods. Questions for each example are provided:

   a. Whole milk versus skim milk
      Which one has the least amount of fat?
      Which one has the most amount of cholesterol?
      Which one has the least amount of calories?
      Which one has the most amount calcium?

   b. Sweet corn versus creamed corn
      Which has the most amount of sodium (salt)?
      Which has the least amount of sugar?
      Which has the most amount of fat?
      Which has the most amount of fiber?

   c. Black beans versus baked beans
      Which has the most amount of sodium (salt)?
      Which has the least amount of sugar?
      Which has the most amount of fat?
      Which has the most amount of fiber?

3. Have the students assess empty food packages for nutritional content and list of ingredients. Use examples of foods typically consumed by teens, such as regular salad dressing versus low fat salad dressing; regular potato chips versus light potato chips. Have students compare nutritional information provided. Labels from snack foods, such as candy bars and other items students can obtain from vending machines make inexpensive, effective learning aids.

4. Have students assess empty food packages that have the selected health claims. Have students evaluate the validity of the health claim by assessing the amounts of selected nutritional information listed to see if the health claim is justified. Lead a discussion that encourages students to consider why the health message is important.

EVALUATION

Students' performance may be evaluated based on their responses to the above learning activities. Incorrect responses, of course, should be immediately corrected and further examples provided until students are able to master the skill.

WRITING ASSIGNMENT

Students will "create-a-food" and design a complete food label for their new, healthy food. Write an essay explaining why this is an important and exciting new food, pointing out the various sections of the food label.

Test Questions

1.. The ingredient present in the largest amount in a food is listed last.
   A. true
   B. false

2. A 2800 calorie diet is appropriate for which group?
   A. elderly
   B. teenage boys
   C. teenage girls
   D. most adult women

3. The percent of Daily Values for total fat, saturated fat, total carbohydrate, and dietary fiber are based on a _____ calorie diet.
   A. 2200
   B. 2000
   C. 1800
   D. 1500

4. Packages containing less than 2 servings are considered to be
   A. a single serving
   B. healthy
   C. not enough food
   D. unhealthy

5. Which of the following vitamins or minerals must be listed on a food label?
   A. Potassium
   B. Vitamin E
   C. Vitamin D
   D. Iron

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ANSWER KEY: B, B, B, A, D,

SAMPLE FOOD LABEL

Nutrition Facts

Serving Size 1/2 cup
Servings per Container about 3.5

Amount Per Serving
Calories 90 Calories from Fat 0

	% Daily Values*
Total Fat 1 g	**2%**
Saturated Fat 0g	**0%**
Cholesterol 0 mg	**0%**
Sodium 550 mg	**23%**
Total Carbohydrate 29 g	**10%**
Dietary Fiber 7 g	
Sugars 5 g	
Protein 7 g	

Vitamin A 0% Vitamin C 0%
Calcium 6% Iron 10%

*Percent of Daily Values are based on a 2,000 calorie diet.
Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2000	2500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram: Fat 9 Carbohydrate 4 Protein 4

Baked Beans

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Canned
Creamed Corn

Nutrition Facts

Serving Size 1/2 cup
Servings per Container about 3

Amount Per Serving
Calories 100 Calories from Fat 0

	% Daily Values*
Total Fat 0.5 g	1%
Saturated Fat 0g	0%
Cholesterol 0 mg	0%
Sodium 430 mg	18%
Total Carbohydrate 22 g	7%
Dietary Fiber 1 g	
Sugars 11 g	
Protein 2 g	

Vitamin A 2% Vitamin C 4%
Calcium 0% Iron 0%

*Percent of Daily Values are based on a 2,000 calorie diet.

Canned
Sweet Corn

Nutrition Facts

Serving Size 1/2 cup
Servings per Container about 3.5

Amount Per Serving
Calories 100 Calories from Fat 0

	% Daily Values*
Total Fat 1 g	2%
Saturated Fat 0g	0%
Cholesterol 0 mg	0%
Sodium 340 mg	14%
Total Carbohydrate 14 g	5%
Dietary Fiber 2 g	
Sugars 5 g	
Protein 2 g	

Vitamin A 0% Vitamin C 4%
Calcium 0% Iron 0%

*Percent of Daily Values are based on a 2,000 calorie diet.

28

1 Quart
Whole Milk

Nutrition Facts

Serving Size 1 cup
Servings per Container about 4

Amount Per Serving
Calories 150 Calories from Fat 70

	% Daily Values*
Total Fat 8 g	12%
Saturated Fat 5g	25%
Cholesterol 35 mg	11%
Sodium 125 mg	5%
Total Carbohydrate 12 g	4%
Dietary Fiber 0 g	
Sugars 12 g	
Protein 8 g	

Vitamin A 6% Vitamin C 4%
Calcium 30% Iron 0% Vitamin D 25%

*Percent of Daily Values are based on a 2,000 calorie diet.

1 Quart
Skim Milk

Nutrition Facts

Serving Size 1/2 cup
Servings per Container about 4

Amount Per Serving
Calories 90 Calories from Fat 0

	% Daily Values*
Total Fat 3 g	0%
Saturated Fat 2g	0%
Cholesterol Less than 5 mg	0%
Sodium 340 mg	14%
Total Carbohydrate 13 g	4%
Dietary Fiber 0 g	
Sugars 13 g	
Protein 9 g	18%

Vitamin A 10% Vitamin C 4%
Calcium 30% Iron 0% Vitamin D 25%

*Percent of Daily Values are based on a 2,000 calorie diet.

Canned
Black Beans

Nutrition Facts

Serving Size 1/2 cup
Servings per Container about 3

Amount Per Serving
Calories 90 Calories from Fat 15

	% Daily Values*
Total Fat 1.5 g	2%
Saturated Fat 0g	0%
Cholesterol 0 mg	0%
Sodium 340 mg	14%
Total Carbohydrate 12 g	4%
Dietary Fiber 8 g	32%
Sugars 1 g	
Protein 7 g	

Vitamin A 0% Vitamin C 0%
Calcium 6% Iron 14%

*Percent of Daily Values are based on a 2,000 calorie diet.

Canned
Baked Beans

Nutrition Facts

Serving Size 1/2 cup
Servings per Container about 3.5

Amount Per Serving
Calories 150 Calories from Fat 10

	% Daily Values*
Total Fat 1 g	2%
Saturated Fat 0g	0%
Cholesterol 0 mg	0%
Sodium 550 mg	23%
Total Carbohydrate 29 g	10%
Dietary Fiber 7 g	28%
Sugars 5 g	
Protein 7 g	

Vitamin A 0% Vitamin C 0%
Calcium 6% Iron 10%

*Percent of Daily Values are based on a 2,000 calorie diet.

DIET AND HEART DISEASE

GRADE LEVEL/POPULATION *Grades 9-12*

MATERIALS AND RESOURCES

"Heart-Healthy Foods Word Find" Worksheet
"My Heart-Healthy Menu" Worksheet
Match Game Questions
Optional: "About Your Heart and Diet" pamphlet,
available from local chapter of the American Heart Association

OBJECTIVES

By the end of the lesson, the student shall be able to:

1. discuss three dietary risk factors for heart disease and three ways to reduce the risk for developing heart disease.
2. identify three foods that are high in saturated fat and three foods that are high in cholesterol.
3. plan a "heart healthy" menu for a day.

INTRODUCTION

Heart disease is the leading cause of death in the United States. Studies show that heart disease is associated with the following preventable risk factors:

cigarette smoking;
hypertension;
obesity;
high serum cholesterol;
fat in the diet; and,
sedentary (inactive) lifestyle.

Daily food consumption is an important part of keeping a heart healthy. Food choices affect four of the risk factors listed above. Medical studies show that diet which contain too many calories and too much fat and cholesterol contribute to atherosclerosis, a build-up of fat lining the arteries. This causes a narrowing of the arteries and eventually can result in blockage which causes a heart attack or stroke. Teenagers should be educated about these preventable risk factors so they can reduce their chances of developing heart disease later in life. The purpose of this lesson is to inform students about the risk factors for heart disease. In addition, students will learn how to identify and design "heart healthy" meals.

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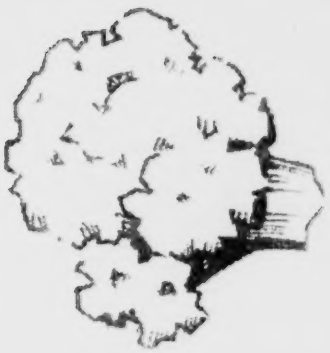
CONTENT

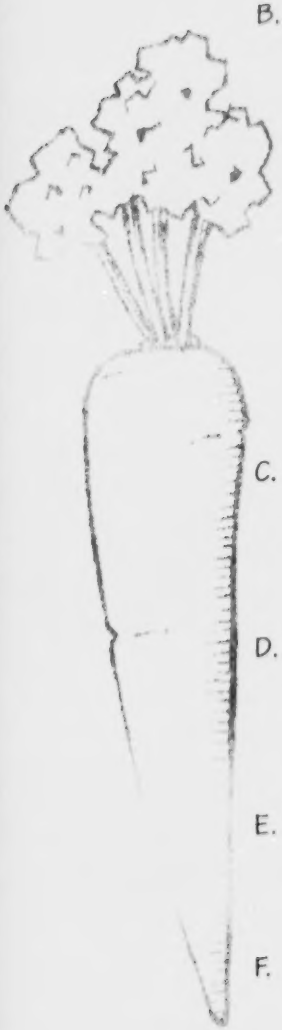


I. **RISK FACTORS FOR HEART DISEASE:**

A. cigarette smoking;
B. family history of heart disease;
C. hypertension;
D. diet high in fat, saturated fat, and cholesterol;
E. high serum cholesterol;
F. obesity; and,
G. sedentary lifestyle (little or no exercise)

II. **STEPS TO REDUCE THE RISK FOR DEVELOPING HEART DISEASE**

A. Reduce total fat intake to no more than 30%.
The fats ingested are different types: polyunsaturated, monounsaturated, and saturated. Polyunsaturated fats and monounsaturated fats should each contribute at least 1/3 of the daily fat allowance.



B. Reduce the amount of saturated fat in the diet. Studies have shown that lowering the intake of serum saturated fat is more important than reducing dietary cholesterol. Eating less saturated fats can lower serum cholesterol levels by 10% to 20%.

Saturated fats are primarily found in foods of animal origin. Foods that are high in saturated fats are also usually high in cholesterol. Foods that are high in saturated fats and cholesterol include butter, lard, egg yolk, meats, poultry with skin, fat back, bacon, sausages, cold cuts, hot dogs, whole milk, 2% milk, cheese, ice cream, and sour cream. Coconut oil, palm oil, and palm kernel oil are three vegetable oils that are high in saturated fats (but they do not contain cholesterol because they do not come from animals).

C. Replace saturated fats with monounsaturated and polyunsaturated fats. Monounsaturated fats are found in avocado, peanut oil, peanut butter, olives, olive oil, and canola oil. Polyunsaturated fats are found in corn oil, sunflower seeds, sunflower oils, soybeans, and soybean oils.

D. Reducing excessive intake of calories and sugars will decrease serum triglycerides. Triglycerides are fatty substances that can build up in the blood and can increase the risk for a heart attack. Foods that are high in sugar and calories include soft drinks, pies, cookies, cakes, candy, and ice cream.

E. Increase the intake of soluble fiber such as oatmeal, oat bran, beans, vegetables, and fruits. Diets high in soluble fiber prevent colon and breast cancers.

F. Maintain a regular aerobic exercise program of at least three times a week for at least 30 minutes each time. Exercise has been shown to reduce serum low density lipoprotein (LDL; the "bad" or harmful type of cholesterol) levels and may protect and raise serum high density lipoprotein (HDL; the "good" or nonharmful cholesterol) levels.

Healthy Weight Ranges

for Men and Women

(Source: Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 1995)

Height*	Weight (in pounds)**
4'10"	91-119
4'11"	94-124
5'0"	97-128
5'1"	101-132
5'2"	104-137
5'3"	107-141
5'4"	111-146
5'5"	114-150
5'6"	118-155
5'7"	121-160
5'8"	125-164
5'9"	129-169
6'0"	140-184
6'1"	144-189
6'2"	148-195
6'3"	152-200
6'4"	156-205

* without shoes

** without clothes

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G. Maintain weight within a healthy range. Weight loss to a healthy level also helps to reduce a person's triglyceride level (if elevated).

TEACHING/LEARNING ACTIVITIES

1. Lecture-discussion on content material. Use overhead transparency from master provided for lecture. (20 minutes)

2. Play the "Diet and Heart Disease Match Game":
   Divide the class into groups of five.
   Each student needs a piece of paper. Instruct the students to work independently within their group. Their group objective is to develop as many matching answers as possible to the questions posed. Each correct match will earn their team one point. For example, three members of the team who have the same answer will earn the team three points.

   Explain to students that the questions will pertain to diet and heart disease. After the teacher or leader reads a question, students will have fifteen seconds to write their answers on their sheet of paper. Then the teacher/leader asks the students to place their pencils down. The students will then hold up their answer sheets, one team at a time. Have students read their answers aloud and calculate total team points. A list of questions for the game can be found in the appendix. The teacher may choose to add questions or to have students come up with additional "bonus" questions.

EVALUATION

1. Review the answers students gave during the game and clarify answers that may be incorrect as well as the many different answers that were correct.

2. Have students complete "My Heart-Healthy Word Find," for homework .

   Answer key: Fruits: apple, apricots, orange, watermelon; Vegetables: broccoli, cabbage, carrot, cauliflower, carrot, corn, peas, spinach; Milk products: cheese; Meats, poultry, fish; chicken, fish, veal; Breads and cereals: bagel, biscuit, cereal, crackers; Fats and oils: cake, pie; High salt and/or sugar: cocoa, sherbet, slurpee.

WRITING ASSIGNMENT

Students will interview someone they know (or suggested by the local Heart Association) that has some form of heart disease. They should ask how this disease has affected their life, what health behaviors they have changed in response to this disease, and what else they might like to change. Most importantly, they should investigate which foods their interviewee has had to give up, which have not been given up but moderated in some way, and which food habits have been most difficult to change. Students should write an essay summarizing their interview and stating what they learned about eating habits.

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Test Questions

1. Which of the following is not a preventable risk factor for heart disease?
   A. Smoking
   B. Hypertension
   C. Sedentary lifestyle
   D. Gender

2. Which of the following is high in cholesterol?
   A. Bread
   B. Eggs
   C. Margarine
   D. Lettuce

3. To reduce the risk for heart disease a person should:
   A. Exercise regularly.
   B. Keep weight in a steady range.
   C. Reduce the amount of unsaturated fat in the diet.
   D. Avoid all foods with cholesterol.

4. Total fat intake should be:
   A. ≤ 20%
   B. ≤ 30%
   C. ≤ 40%
   D. ≤ 50%

5. Which of the following is true?
   A. Monounsaturated and polyunsaturated fats should be replaced with saturated fats.
   B. Foods high in saturated fat are also always high in cholesterol.
   C. Studies show eating less saturated fat is more important than eating foods low in cholesterol.
   D. Saturated fats are found mainly in foods of plant origin.

ANSWER KEY: A, B, A, B, C

Healthy Foods Word Find

Directions: Identify the foods in the puzzle and place them in the appropriate food group.

C A U L I F L O W E R Z M B Q C C
A F I S H B R S P I N A C H V A Y
K D O C G X E H I C O R N B F R T
I A D B G I C H I C K E N S N O R
F W A P R I C O T S J N D C U T C
L W A T E R M E L O N P E U E S R
O E U G P E C A N E S E K I O I A
R E D B E A N S M R T A N T R O C
A P D A F I E M N L T S V E A L K
N R G O R N F T O E A T O J N O E
G U N L U R B U T G I L Q E G R R
E L E T T U C E Q A Y T P I E N S
O S Y E T A S K T B R O C C O L I
N C A B B A G E T A S R L U M I C
E V A P P L E Y C H E E S E W P E
Y O C E R E A L X E S C O C O A Z

Fruits &Vegetables

Milk Products

Meats Poultry & Fish

Breads & Cereals

Fats & Oils

High Salt and/or Sugar

My Heart-Healthy Menu

Using the list of foods from the Word Find, write a sample menu for a day's healthy foods.

Breakfast

Afternoon Snack

Morning snack

Dinner

Lunch

Bedtime snack

How many servings did you have from each of the 5 food groups?

Bread, Cereal, Rice & Pasta Group _____

Vegetable Group ____

Fruit Group ____

Milk, Yogurt & Cheese Group ____

Meat, Poultry, Fish, Dry Beans, Eggs & Nuts Group ____

MATCH GAME QUESTIONS

1. Name a source of cholesterol.
2. Name a saturated fat that is of animal origin.
3. Name a type of food that contains a polyunsaturated fat.
4. Name one monounsaturated fat.
5. Name a heart-healthy food.
6. Name an unhealthy food.
7. Name a food that is high in fat and calories.
8. Name a food that is high in sugar and calories.
9. Name a type of fat that tends to lower cholesterol levels.
10. Name a saturated fat that is of vegetable origin.

DIET AND HYPERTENSION

GRADE LEVEL/POPULATION *Grades 9-12*

MATERIALS AND RESOURCES

Invited guest: school nurse or public health nurse (optional)
Sphygmomanometer
Stethoscope
"Health Behavior Contract" student handout and overheads
"Dietary Management of Hypertension" overhead

OBJECTIVES

By the end of the lesson, the student will be able to:

1. Define hypertension and list the blood pressure values for normal blood pressure and high blood pressure.
2. Explain the dietary factors associated with hypertension.
3. Discuss the dietary management of hypertension.
4. Develop a health behavior contract for a person who has hypertension.

INTRODUCTION

Hypertension or high blood pressure is a significant risk factor for the development of heart disease. Heart disease is the leading cause of death in the United States. Risk factors associated with hypertension are: age; family history; stress; race (African-American); obesity; low income; low educational levels; and, dietary factors.

Many dietary risk factors related to hypertension can be effectively managed by certain dietary restrictions and through exercise. The purpose of this lesson is to enable students to recognize the dietary factors associated with hypertension and to analyze diets to reduce the risk for developing this disease.

CONTENT

I. ESSENTIAL OR PRIMARY HYPERTENSION

A. No known cause
B. Makes up 90% of hypertension cases

II. NON-ESSENTIAL HYPERTENSION

A. Occurs in association with other medical problems such as renal (kidney) disease, endocrine disease, and liver disease.
B. Accounts for 10% of hypertension cases

III. BLOOD PRESSURE

Blood pressure values consist of two measurements, systolic pressure over diastolic pressure. Systolic pressure is related to cardiac (heart) stroke volume; and diastolic pressure assesses the pressure on the heart in between contractions.

Blood pressure readings to minimize risk of heart disease should be:

A. Systolic pressure: 120 mm/Hg or lower
B. Diastolic pressure: 80 mm/Hg or lower

IV. HIGH BLOOD PRESSURE

Blood pressure readings associated with heart disease:

A. Systolic pressure 140 mm/Hg or above
B. Diastolic pressure 90 mm/Hg or above

V. DIETARY FACTORS ASSOCIATED WITH HYPERTENSION

A. Sodium intake may increase blood pressure
B. Increased calcium levels may decrease blood pressure
C. An increased intake of potassium leads to a decrease in high blood pressure
D. Increased serum levels of magnesium may decrease high blood pressure (not associated with magnesium in the diet)
E. Increased alcohol intake may increase blood pressure

VI. DIETARY MANAGEMENT OF HYPERTENSION

A. Maintain weight within healthy weight range (see "Heart Disease" plan)
B. Restrict alcohol consumption if over 21 years old
C. Restrict sodium intake to 2400 mg (daily value) about 1-1/4 teaspoons a day
D. Exercise regularly (at least 3-5 times a week for 20-60 minutes)
E. Increase intake of potassium-rich foods (such as bananas, oranges, orange juice)

VII. HEALTH BEHAVIOR CONTRACTS

Health behavior contracts have proven to be effective strategies for behavior change. An effective health behavior contract includes:

1. the life skill for which a habit needs to be formed;
2. statement(s) describing the importance of this life skill to optimal well- being;
3. a plan for practicing this life skill;
4. an evaluation, including a method of reporting progress; and,
5. a statement of the results experienced from practicing the life skill.

LEARNING ACTIVITIES

1. Ask for two or three students to volunteer to have their blood pressure taken. Invite a school nurse or public health nurse to assist with this activity. Demonstrate how to correctly take a person's blood pressure using a sphygmomanometer. Explain the meanings of the two components of a blood pressure reading. Have students discuss the significance of high blood pressure. (15 minutes)

2. Lecture-discussion on content I-VI. Use overhead transparency provided. (20 minutes).

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3. Teach students how to develop a health behavior contract. Explain its components (see content material section VII). Show them an example of a health behavior contract with the overhead transparencies provided and distribute this example by generating worksheets to be handed out to the students. (15 minutes)

EVALUATION

As a homework assignment, have students write out a health behavior contract. Ask that they choose a current behavior places them at risk for developing hypertension later in life. In addition, ask them to interview someone they know who has hypertension or a significant adult in their lives. Stipulate that the behavior contracts they develop to manage hypertension must include modifying important dietary habits. Assess the health behavior contracts for the effectiveness of the management of hypertension, particularly as they are able to do so through diet.

WRITING ASSIGNMENT

Students will imagine that a close male relative (uncle, grandparent, etc.) has hypertension but doesn't like to be harassed about his condition. They should design an appealing "info-mercial" about hypertension which includes why it would be beneficial to lower his hypertension level, how to manage hypertension with a healthful diet, and other relevant information for him. The info-mercial should be designed to be broadcast during his favorite sporting event (football, basketball or the Olympics).

NOTES:

Test Questions

1. Which of the following is not a risk factor associated with hypertension?
   A. Age
   B. Race
   C. High income level
   D. Obesity

2. High blood pressure is considered to be 140/90.
   A. true
   B. false

3. Which of the following recommendations would not help reduce high blood pressure?
   A. Exercise regularly.
   B. Reduce sodium intake to less than 2400mg per day.
   C. Reduce weight to within 15% of desirable weight.
   D. Reduce intake of potassium-rich foods.

4. Which of the following statements is false?
   A. Sodium intake may increase blood pressure.
   B. A decreased calcium level may decrease blood pressure.
   C. Increased alcohol intake may increase blood pressure.
   D. Increased intake of potassium leads to a decrease in blood pressure.

5. Essential hypertension accounts for what percentage of hypertension cases?
   A. 90%
   B. 10%
   C. 40%
   D. 75%

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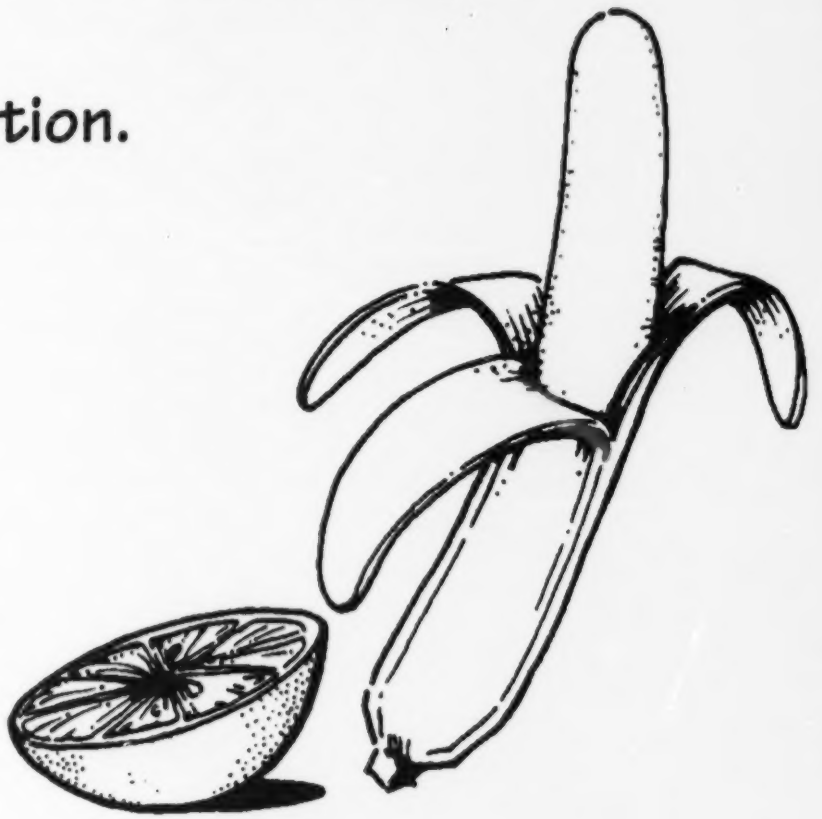
ANSWER KEY: C, A, D, B, A

DIETARY MANAGEMENT OF HYPERTENSION

1. Reduce weight to within 15% of ideal weight.
2. Reduce alcohol consumption.
3. Restrict sodium intake.
4. Exercise.
5. Increase intake of foods high in potassium.



Keeping Myself Healthy Contract

Date: _____

Goal: _____

_____

_____

How this goal will help to keep me healthy:

_____

_____

_____

My Plan (Strategies):

_____

_____

_____

People who will help to encourage me:

_____

_____

_____

Evaluation/ know I have reached my goal when:

_____

_____

I will listen to my body and observe the way I feel on the days that I follow my plan and the days that I do not follow my plan. I will strive to do my best.

_____ _____

My Signature **Witness (optional)**

DIET AND CANCER

GRADE LEVEL/POPULATION *Grades 9-12*

MATERIALS/RESOURCES

Chalkboard and chalk or a dry-erase board and markers
Pamphlets on diet and cancer available from local chapter of the American Cancer Society
Handout (attached): "How Do You Measure Up to the 5-A-Day For Better Health Plan?"

OBJECTIVES

By the end of the class period, the students will be able to:

1. identify the types of cancers that are highly associated with dietary intake and obesity.
2. explain the key dietary changes, including the "5-A-Day" plan, that are linked to a reduced risk of developing cancer.
3. evaluate their personal diet and explain changes that are associated with cancer risk reduction.

INTRODUCTION

Cancer is the second leading cause of death in the United States, and there are behaviors linked to reduced chances of developing this disease. Eating habits are developed early; thus, eating behavior conducive to cancer risk reduction should be established in youth. Although no specific foods absolutely prevent cancer, chances of developing cancer can be effectively reduced through diet. Studies show dietary factors contribute to nearly one-third of all cancer deaths each year. The purpose of this lesson is to enable students to identify the types of cancer most directly related to dietary habits and obesity. In addition, students will be able to analyze diets and assess which foods are associated with decreased risk of cancer.

CONTENT

I. OVERVIEW OF CANCER

Cancer has been found to develop through the following process:

A. exposure to a carcinogen (a cancer-initiating substance);
B. entry of the carcinogen into the cell;
C. "initiation phase": normal cell is genetically altered to form cancerous cell;
D. facilitation of the cancer's growth—"promotion phase"; and,
E. tumor progression (tumor gets bigger and/or cancer cells spread to other parts of the body). (Tumor: an abnormal mass of tissue that is not inflammatory, arises without obvious cause from cells of preexistent tissue, and possesses no physiological function; may or may not be cancerous/malignant)

II. DIET-RELATED CANCERS

A. Breast cancer
   1. Age is a risk factor: more likely to happen to women over age 50
   2. Personal history of breast cancer
   3. Mother or sister having breast cancer
   4. Never giving birth or giving birth after age 30
   5. Long menstrual history (beginning at or before age 9, ending after 50)
   6. Diet high in fat (some conflicting evidence on this relationship; however, most experts concur that consumption of a diet lower in fat is sound health advice for those at higher risk for breast cancer.)

B. Uterine and ovarian cancer
   1. Age is a major risk factor
   2. Family or personal history of breast, bowel, and endometrium cancer, or of obesity
   3. Pregnancy and childbirth reduce risk
   4. Use of oral contraceptives reduces risk

C. Prostate cancer
   1. The prostate gland is a male genital gland about the size of a chestnut. It secretes a milky fluid that is part of semen. The prostate gland lies at the base of the penis, just below the urinary bladder and above the rectum.
   2. Cause is unknown
   3. Risk increases with age: almost all patients with prostate cancer are over 55 years old and 80% are over age 65.
   4. African-American males are at greater risk than white males; the reason is unknown.
   5. Studies show that 1 out of every 10 American men will develop prostate cancer before age 85.
   6. A low-fat diet may reduce the risk of developing prostate cancer.

D. Colorectal cancer
   1. Polyps (masses of tissue) are precursors
   2. Family history of colorectal cancer or of inflammatory bowel disease increases risk
   3. Age: majority of cases occur after age 50
   4. Approximately 77,000 new cases a year for men and 74,000 cases a year for women

III. DIETARY RECOMMENDATIONS TO REDUCE THE RISK OF CANCER

A. Avoid obesity.

B. Reduce fat intake to 30% of total calories. No more than one-third of "fat calories" should come from saturated fats. Some common dietary sources of saturated fats are meats, butter, cheese, and coconut oil (commonly found in commercial cakes, cookies, and snack foods).

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C. Increase intake of foods with both water-soluble and water-insoluble fiber to reduce risk. Some examples of foods with water-soluble fiber includes beans, oatmeal, oat bran, and fruits; examples of water insoluble fiber foods include wheat bran, fruits, and vegetables. 20-30 grams of fiber a day is recommended. Increase fiber intake gradually because excessive intake can cause: painful intestinal gas, diarrhea, and bloating. Excessive intake can interfere with the body's absorption of essential nutrients.

D. Follow the "5-A-Day" plan: eat at least five servings of fruits and dark, green, leafy, yellow, and orange vegetables (high in vitamins A and C) daily. This plan, started by the National Cancer Institute, encourages people to eat more fruits and vegetables daily, which is linked to reduced risk of cancer.

E. Adults (over 21 years)—if they drink—should consume alcohol in moderation (no more than 2 drinks a day).

F. Limit intake of salt-cured, nitrite-cured, smoked, and charcoal-broiled foods (such as cold cuts, bologna, ham, hot dogs); such foods have been linked to cancer.

G. Avoid smoking cigarettes or any other carcinogenic substance.

LEARNING ACTIVITIES

1. Lecture-discussion on content material and distribution of *Diet and Cancer* handout. (20 minutes)

2. Write out on the chalkboard or develop an overhead transparency of the risk factors for the four cancers discussed. Place students in groups of four or five. One member in each group will divide a sheet of paper into four sections, labeling them prostate, breast, colorectal, and ovarian/uterine. Tell the students to put the correct risk factors in the correct boxes. The team that finishes first having the most answers correct wins. (20 minutes)

3. Have the students in groups of 4-5 brainstorm ways that they could change their diets to reduce their cancer risk. Have them refer to the handout. Have groups share and compare responses. (20 minutes)

EVALUATION

Have the students ask their parents and other relatives about the prevalence of diet-related cancers in their family. For one type of cancer they find (or one they choose), have them write dietary recommendations to reduce personal risk.

Ask the students to keep a journal of the amount of fruits and vegetables that they eat for a week. Have them analyze their diets using the "5-A-Day" plan. Ask the students to turn in the journal the following week.

WRITING ASSIGNMENT

Students will find newspaper articles and pictures depicting different forms of cancer. They will design a large collage or bulletin board, which could be displayed during a cancer awareness promotional campaign. They will write their reaction to the display and explain how their lifestyle, particularly their nutritional habits, will influence their chances of developing cancer.

NOTES:

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Test Questions

1. Which of the following is not a diet-related cancer?
   A. Colorectal
   B. Breast
   C. Uterine
   D. Lung

2. Age is not a major risk factor for:
   A. Colorectal cancer
   B. Breast cancer
   C. Uterine cancer
   D. Ovarian cancer

3. What dietary recommendation should a person follow to reduce his/her risk of cancer?
   A. Eat five servings of fruits and vegetables.
   B. Reduce fat intake to less than 25% of total calories.
   C. Increase intake of water soluble and water insoluble fiber.
   D. A & C

4. Which of the following is the process by which cancer develops?
   A. Initiation phase; exposure to a carcinogen; carcinogen enters the cell; promotion phase; tumor
   B. Initiation phase; exposure to a carcinogen; promotion phase; carcinogen enters the cell; tumor
   C. Exposure to a carcinogen; carcinogen enters the cell; initiation phase; promotion phase; tumor
   D. Exposure to a carcinogen; carcinogen enters the cell; initiation phase; tumor; promotion phase

5. What is the cause of prostate cancer?
   A. Smoking
   B. Exposure to asbestos
   C. Genetics
   D. There is no known cause.

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ANSWER KEY: D, A, B, C, D

How Do You Measure Up

To The 5-A-Day For Better Health Plan?

Record the number of servings of fruits and vegetables that you eat each day (at school, home, etc.).
Write the names of the fruits and vegetables in the appropriate category.
Try to choose a different fruit or vegetable each day.

Days of the Week	Names of Fruits (2 or more servings)	Names of Vegetables (3 or more servings)
Sunday	1. 2. 3.	1. 2. 3.
Monday	1. 2. 3.	1. 2. 3.
Tuesday	1. 2. 3.	1. 2. 3.
Wednesday	l. 2. 3.	1. 2. 3.
Thursday	1. 2. 3.	1. 2. 3.
Friday	1. 2. 3.	1. 2. 3.
Saturday	1. 2. 3.	1. 2. 3.

HEALTHY VEGETARIAN DIETS

GRADE LEVEL/POPULATION: Grades 9-12

MATERIALS AND RESOURCES

Copies of the Food Guide Pyramid
Copies of food chart
Copies of meat-substitute hand-out
Eating Well-The Vegetarian Way, available from:
The American Dietetic Association, 216 West Jackson Boulevard
Chicago, IL 60606-6995 (312) 899-0040
Vegetarian Nutrition for Teenagers!, available from:
The Vegetarian Resource Group, Box 1463T
Baltimore, MD 21203

OBJECTIVES

By the end of the lesson, the students will be able to:

1. Differentiate between the different types of vegetarians (vegans, lactovegetarians, and lacto- ovo vegetarians).
2. List five examples of meat-substitutes that will meet the food guide pyramid guidelines.
3. Design healthy meals and snacks for each type of vegetarian.
4. Discuss three benefits of eating a vegetarian diet/and cautions or concerns.
5. List the nutrients that may be low in a vegetarian diet (such as iron, calcium, protein, and B- 12) and good sources of these nutrients in a diet.

INTRODUCTION

A vegetarian is a person who does not eat meat, poultry, and fish. Vegetarians eat mainly plant foods: fruits, vegetables, legumes, grains, seeds, and nuts. Some also eat eggs and dairy products. Vegetarian diets can be healthful for people of all ages. Research has shown that heart disease, high blood pressure, adult-onset diabetes, osteoporosis, obesity, and some forms of cancer tend to develop less often in vegetarians than in non-vegetarians. However, vegetarians (as all people) must carefully plan their meals to ensure they are meeting their daily dietary needs. The purpose of this lesson is to enable teenagers to analyze the health benefits and potential challenges in consuming a vegetarian diet. In addition, teens will be able to formulate nutritious vegetarian meals.

CONTENT

I. DEFINITIONS

A. Vegetarianism—a diet in which the meal plan consists mainly of plant foods such as fruits, vegetables, legumes, grains, seeds, and nuts. Some vegetarians also eat eggs and dairy products.
B. Vegetarian—a person who does not eat meat, poultry, and fish.
C. Omnivore—a person who eats meat, poultry, and fish

II. TYPES OF VEGETARIANS

A. Vegan
   1. Exclude all animal products
   2. May not eat honey

B. Lactovegetarian
   1. Exclude meat, poultry, fish, and eggs
   2. Include dairy products

C. Lacto-ovo vegetarian
   1. Exclude meat poultry and fish
   2. Include eggs and dairy products

III. REASONS PEOPLE CHOOSE A VEGETARIAN DIET

A. Health

Research studies document lower rates of the following diseases in persons who consume a vegetarian diet:

1. heart disease
2. high blood pressure
3. adult-onset diabetes
4. osteoporosis
5. obesity
6. some forms of cancer

B. Environmental or ecological advantages
   1. Modern meat production involves intensive use of grain, crops, water, energy, and grazing areas (for example, producing one pound of beef requires 5000 gallons of water).
   2. Economic and world hunger concerns
      a. Many animals raised for livestock eat grains that are fit for human consumption.
      b. Nearly 40% of total global, and over 70% of U.S., production of grains are fed to livestock
      c. Five times as many people in the world could be fed with grain as compared with eating the products of livestock (meat, eggs, and milk).
   3. Compassion for animals

C. Food preference

D. Religious beliefs, principles (Seventh-Day Adventists, Hindu monks, Trappist monks)

IV. MEAT SUBSTITUTES (alternative sources of protein)

A. Tofu
B. Eggs
C. Beans
D. Nuts, Seeds
E. Cheese

V. SUGGESTED DAILY SERVINGS FOR A VEGETARIAN DIET

A. Grain products: 6 or more
B. Vegetables: 4 or more
C. Meat substitutes: 2-3
D. Fruits: 3 or more
E. Dairy products: up to 3 (optional)
F. Eggs: 3-4 yolks per week (optional)

VI. NUTRIENTS OF CONCERN IN THE VEGETARIAN DIET

A. Calcium
   1. Vegans need non-dairy sources
      a. dark, leafy greens (such as kale and mustard greens)
      b. bok choy
      c. broccoli
      d. beans
      e. tofu prepared with calcium
      f. dried figs
      g. sunflower seeds
   2. Lactovegetarians eat dairy sources
      a. milk
      b. yogurt
      c. cheeses

B. Iron
   1. Plant sources
      a. dried beans
      b. dark green vegetables
      c. dried fruits
      d. pumpkin seeds
      e. iron-fortified breads and cereals
   2. Egg yolk
   3. Vitamin C rich foods (such as citrus fruits and juice)
      a. increase iron absorption
      b. should be eaten with foods containing iron sources to help body absorb iron from plant sources

C. Vitamin B-12
   1. Mainly acquired from animal food sources
   2. Vegan sources
      a. Vitamin B-12-fortified cereals
      b. Vitamin B-12 supplements
   3. Not as great a concern for vegetarians who consume dairy products or eggs

D. Vitamin D
   1. Mainly acquired from dairy products fortified with vitamin D
   2. The body produces vitamin D when it is exposed to sunlight

3. Vegans may need supplements if they are not exposed to sufficient sunlight (be sure to use a sunscreen!)

E. Protein
   1. "Complete" proteins
      a. acquired from meat and other animal products
      b. include all the essential amino acids.
   2. Proteins found in plant foods are "incomplete."
      a. have one or more amino acids missing.
      b. Vegetarians must plan meals carefully to make certain that their diet contains all of the essential amino acids daily by combining foods, such as:
         1) macaroni and cheese
         2) beans and rice
         3) rice and stir-fry vegetables
         4) cereal and milk.
   3. Vegetarian sources of protein:
      a. tofu
      b. eggs
      c. beans, peas
      d. nuts, seeds
      e. milk, cheese

LEARNING ACTIVITIES

1. Lecture-discussion on content material. (20 minutes)

2. Divide the class into three groups.
   Have the students sit in an arrangement in which they can talk easily with one another. Give a copy of the food chart, meat substitute handout, and food guide pyramid to each group. Have each group plan three meals for a different vegetarian type that meets the guidelines of the food guide pyramid using foods most teenagers would enjoy. Each group reports the group's meals for class review and discussion. (15-20 minutes)

EVALUATION

Review the groups' meal plans according to the criteria in the assignment.

WRITING ASSIGNMENT

Students will imagine that they are going to spend two months in (choose a country) this summer as part of a cultural enhancement program. They must write their host families (in English) ahead of time to explain their special dietary restrictions due to being vegetarian. Students should choose one type of vegetarian diet and explain that type of vegetarianism to their prospective hosts, including examples of acceptable nutritional food choices. They should also include an explanation about why they chose to become vegetarian.

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Test Questions

1. Which of the following is false?
   A. Vegans exclude all animal products
   B. Lacto-ovo vegetarians exclude meat, poultry, and fish, but include dairy products and eggs
   C. Vegans will eat fish and eggs occasionally
   D. Lactovegetarians include dairy products.

2. How many daily servings of vegetables should be included in a vegetarian diet?
   A. 4
   B. 6
   C. 8
   D. 10

3. Which is not a nutrient of concern for vegetarians?
   A. Calcium
   B. Iron
   C. Vitamin D
   D. Potassium

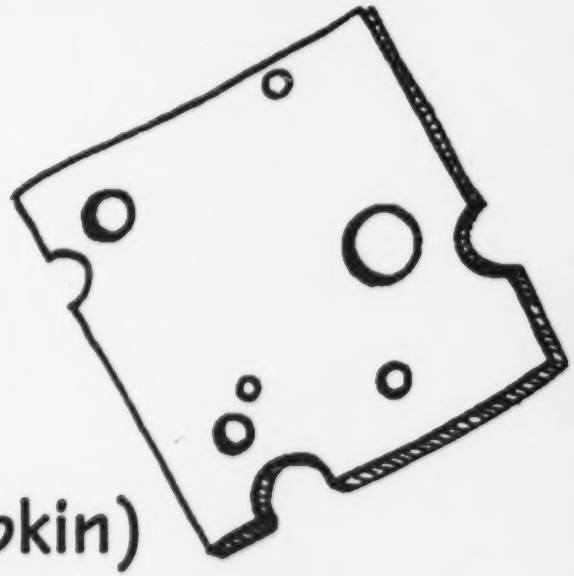
4. Which is not a good alternative source of protein for vegetarian diets?
   A. Beans
   B. Nuts
   C. Eggs
   D. Leafy green vegetables

5. Which of the following is a non-dairy source of calcium?
   A. Broccoli
   B. Cauliflower
   C. Pumpkin seeds
   D. Dried fruits

ANSWER KEY: C, A, D, D, A

MEAT SUBSTITUTES/ALTERNATIVES

1. TOFU
2. EGGS
3. KIDNEY BEANS
4. NUTS (i.e. peanut butter)
5. SEEDS (i.e. sunflower, pumpkin)
6. CHEESE
7. SOY BEANS
8. PINTO BEANS
9. BLACK BEANS



FOOD CHART

BREAKFAST

LUNCH

DINNER

Vegetarian

60

61

50

COMPULSIVE OVEREATING

GRADE LEVEL/POPULATION Grades 9-12

MATERIALS AND RESOURCES

Handout: 10 questions for panel of contestants
Answer sheets for contestants
Script for announcer
Overhead transparency of correct responses to questions
Overheads transparency of lecture content
Prizes (fruit, badges, buttons, etc.)

OBJECTIVES

By the end of the class period, the student will be able to:

1. Identify the six signs and symptoms of compulsive overeating.
2. List two characteristics that distinguish compulsive overeating from bulimia nervosa.
3. List three thoughts and three feelings that characterize compulsive overeaters.

INTRODUCTION

Compulsive overeating is characterized by binge eating that is usually not accompanied by purging. Persons who engage in compulsive overeating may use this behavior to cope with stress, painful feelings, and other troubles. These persons have not learned healthy, effective ways of coping with life problems. These individuals are addicted to food in much the same way as an alcoholic is addicted to alcohol. No amount of food, however, can fill emotional needs. They spend a considerable amount of their time thinking about planning to diet or how to be "good." A compulsive overeater is not always overweight. Psychological counseling and joining a support group such as Overeaters Anonymous may help compulsive overeaters recover from their eating disorder. The purpose of this lesson is to enable teens to recognize the signs, symptoms, characteristics, and physical consequences of compulsive overeating.

CONTENT

I. SIGNS AND SYMPTOMS OF COMPULSIVE OVEREATING

A. Binge eating
   1. eating in a set period of time (i.e., within two hours) an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances (> 2000 calories)
   2. a sense of lack of control over eating during the episode (a feeling that one cannot stop eating or control what or how much one is eating)

B. Nibbling and snacking over several hours
C. May or may not overeat at mealtime
D. Usually do not overeat in front of other people
E. Prefer high-sugar, high-fat "comfort foods"

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F. Eat not just to satisfy physical hunger but also to relieve stress and numb painful feelings
G. Do not compensate for overeating by purging behaviors: vomiting, exercising, fasting, or abusing laxatives and diuretics

II. THOUGHTS OF COMPULSIVE OVEREATERS

A. "I'm lonely. I'll eat. Food is love"
B. "I'm stressed. I'll eat. Food is comfort and a tranquilizer."
C. "I did well today. I'll eat. Food is a reward."
D. "Something is wrong with me. I have no will power."
E. "I have no control. I'm bad. I'm a failure."

III. FEELINGS OF COMPULSIVE OVEREATERS

A. Embarrassed, guilty, ashamed, which results in low self-esteem
B. Depressed, and sometimes suicidal
C. May fear emotional intimacy

IV. PHYSICAL CONSEQUENCES OF COMPULSIVE OVEREATING

A. Weight gain
B. Obesity and problems that result from obesity, such as arthritis, gout, hypertension, varicose veins, and respiratory problems
C. Decrease in basal metabolism, the total energy output of a body at rest after a twelve-hour fast, which makes it more difficult to lose weight
D. Increase in body fat

V. BULIMIA NERVOSA AND COMPULSIVE OVEREATING

Bulimia nervosa is a type of compulsive overeating; however, unlike bulimics, compulsive overeaters rarely engage in purging. Therefore, not all compulsive eaters suffer from bulimia nervosa.

LEARNING ACTIVITIES

1. Lecture-discussion on content material with provided overhead transparencies (15 minutes)

2. Introduce the game show activity called, "To Tell the Truth" (which is based on a former television show). The activity involves interviewing three contestants all claiming to be a compulsive overeater. Only one of them, however, will answer all questions posed accurately. The other two contestants may respond to any question with either correct or incorrect information, but will not respond correctly to all questions. At the end of the game, each member of the class "audience" will select the true "compulsive overeater" among the three contestants.

a. Select three contestants from the class and give each a set of answers. (This may be done a day before the lecture so that they can review their answers carefully, learn accurate pronunciation of words, and the two "imposter" contestants can make up answers of their own.

b. On the day of the activity, all students are given the set of 10 questions for the panelists. Randomly select 10 students to ask one question each to the panel.

c. The part of the announcer may be played by either a student or the teacher. The announcer instructs the students to follow along with the question sheet provided to them during the exercise.

d. After each question is answered, the students should record the number of the contestants that they believe to be telling the truth next to the corresponding question number. For example, if the student believes contestant #1 and contestant #3 are telling the truth for question 1, put a "1" and "3" next to question 1. Remind the students that more than one contestant may be telling the truth on any given question, but the "real" compulsive overeater will answer all the questions correctly.

e. The announcer begins the activity with the introduction of the three contestants. The announcer asks all three contestants to "please state your name and occupation." Contestant #1, #2, and #3 all respond: "My name is Benji Eater and I am a compulsive overeater." The announcer then states: "Binge eating, eating to relieve stress, and juice diets are some of the characteristics of a "true" overeater. Benji Eater is currently a college student. His claim to fame from his high school years was winning the county pie-eating contest for three consecutive years. But now he is well aware that he has a problem. We will begin the questioning with panelist #1."

f. The students then ask the 10 questions to the panel of contestants when prompted to do so by the announcer. All three contestants answer each question; the teacher should monitor these answers to be certain only one student answers all questions correctly.

g. At the end of the questions, the announcer asks the students to raise their hands if they think the "real" compulsive overeater is contestant #1, contestant #2, or contestant #3. The announcer then says, "Will the real Benji Eater please stand up?" Contestant #1 stands up because he/she is the "real" compulsive overeater. Prizes should be given to the class "winners" (those who guess the true compulsive eater) and to the volunteers who ask the questions.

h. The teacher then uses the overhead transparency of the question sheet to review the correct answers to the questions posed so students can check their papers. (Prizes can be awarded to those students who got 5 or fewer responses wrong).

i. The teacher could lead a discussion of each contestant's answers to also review the feelings and thoughts which underlie them during this review.

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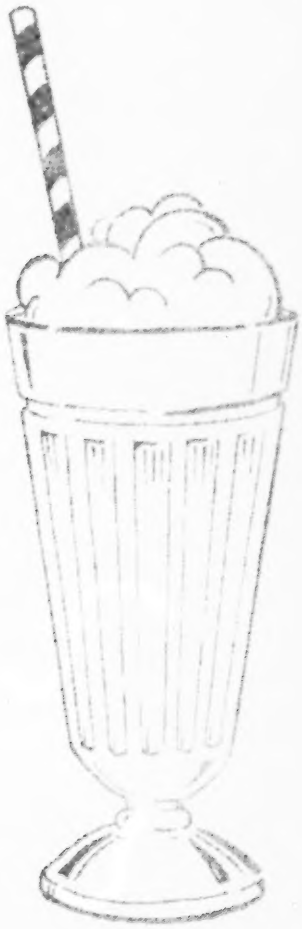
EVALUATION

The teacher evaluates how well the students can discriminate false statements from those that are correct, and by how many students were able to determine the true compulsive overeater and were able to state reasons for their selection.

WRITING ASSIGNMENT

Students will imagine that they suffer from compulsive overeating. They should write about their feelings, beliefs, and attitudes toward their body. In addition, they should write positive, "self-talk" statements which rectify their negative statements and promote healthy self-image, body-image, and nutritionally sound behaviors. Finally, they should design a step-by-step process to slowly but steadily incorporate healthy eating behaviors into their lifestyle.

NOTES:



CORRECT ANSWERS FOR CONTESTANTS

1. *1 & 3*
2. *1 & 2*
3. *1*
4. *1 & 3*
5. *1 & 3*
6. *1, 2, & 3*
7. *1 & 3*
8. *1*
9. *1 & 3*
10. *How would you describe yourself in one sentence?*

Test Questions

1. Which of the following is not a sign or symptom of compulsive overeating?

   A. The person always overeats at every meal
   B. The person usually eats a lot of high-sugar, high-fat "comfort foods"
   C. The person eats not just to satisfy physical hunger but also to relieve stress and numb painful feelings
   D. The person nibbles and snacks constantly

2. Which of the following is not a characteristic of a compulsive overeater?
   A. Uses food as a reward
   B. Never thinks about dieting or losing weight
   C. Sometimes suicidal
   D. Low self-esteem

3. Which of the following is not a physical consequence of compulsive overeating?
   A. Increased risk of heart attack and stroke
   B. Increased risk of diabetes
   C. Increased risk of bone and joint problems
   D. Increased risk of severe weight loss

4. Which of the following is true?
   A. All compulsive overeaters suffer from bulimia nervosa
   B. Compulsive overeating causes an increase in basal metabolismc.
   C. Compulsive overeaters seek emotional intimacy
   D. Bulimia nervosa is a type of compulsive overeating

5. Which is the following is a typical thought of compulsive overeaters?
   A. Food is punishment for being bad.
   B. Food is a reward.
   C. I have will power to stop eating when I want to.
   D. Eating stresses me out.

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ANSWER KEY: A, B, D, D, B

Questions for Contestants

(To be read by Narrator)

1. What is your favorite food?
2. How do you generally feel around other people?
3. Do you have any specific medical problems?
4. What do you usually do to relieve stress?
5. What do you typically eat for breakfast, lunch and dinner?
6. How would you describe your body type?
7. Who do you usually eat most of your meals with?
8. How many snacks do you generally eat a day?
9. What kind of diets have you tried?
10. How would you describe yourself in one sentence?

CONTESTANT #1 ANSWERS

1. Donuts
2. I generally feel embarrassed around people I don't know very well.
3. I have diabetes and high blood pressure.
4. I usually eat when I'm stressed. It makes me feel better.
5. I usually don't eat anything for breakfast. For lunch, I might have a turkey sandwich, potato chips, cole slaw, and a soda. For dinner, I might have chicken, a vegetable, rice or bread, and a glass of milk.
6. I am overweight and look like a round tub.
7. I usually eat alone.
8. I have two or three snacks between breakfast and lunch. I have three or four snacks between lunch and dinner. I usually have two snacks before bedtime.
9. I have tried the Slimfast diet and also skipping breakfast and lunch and just eating dinner.
10. I feel people don't like me because I'm overweight.

CONTESTANT #2 ANSWERS

1. Spaghetti
2. I'm kind of shy around other people.
3. Not that I know of...
4. I usually go jogging or play tennis.
5. I eat a balanced meal for breakfast, lunch, and dinner. I follow the USDA Food Guide Pyramid Guidelines when I plan my meals.
6. I am an average weight person and far from having the "perfect body."
7. I usually eat with my family or friends. However, I do sometimes eat by myself.
8. I usually have three or four total snacks a day.
9. I have never been on a diet...I don't believe in them.
10. I am a motivated person who sometimes lacks self-confidence.

CONTESTANT #3 ANSWERS

1. It would have to be pizza or candy.
2. I generally feel really comfortable around people.
3. I have a slight heart murmur and varicose veins.
4. I usually eat or exercise to relieve stress.
5. I usually eat fruit for breakfast. I have pizza with soda for lunch and some candy for dessert. I eat chicken or steak with a green vegetable with a potato or rice for dinner.
6. I think I'm too fat. It is probably because I eat too much.
7. I eat most of my meals by myself because I have a weird schedule.
8. I generally don't snack much between meals.
9. I have just tried appetite suppressants, like Dexatrim or Accutrim. They keep me from getting out of control when I eat.
10. I am a happy person who sometimes lacks self-control.

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SIGNS AND SYMPTOMS OF

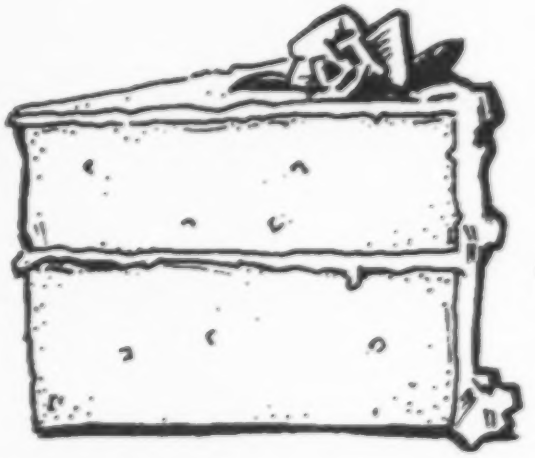
COMPULSIVE OVEREATING

1. Binge Eating
2. Nibbling and Snacking Over Several Hours
3. May or May Not Overeat at Mealtime
4. Usually Do Not Overeat in Front of Other People
5. Prefer High-Sugar, High-Fat Comfort Foods
6. Eat Not to Satisfy Physical Hunger But Also to Relieve Stress and Numb Painful Feelings
7. Do Not Compensate for Overeating By Vomiting, Exercising, Fasting or Abusing Laxatives and Diuretics

PHYSICAL CONSEQUENCES OF

COMPULSIVE OVEREATING

1. Weight Gain: Sometimes Obesity and Increased Body Fat
2. Increased Risk of High Blood Pressure, Clogged Blood Vessels, Heart Attack, and Stroke
3. Increased Risk of Some Cancers
4. Increased Risk of Bone and Joint Problems
5. Increased Risk of Diabetes
6. Addiction to Food



ACTING ON BULIMIA NERVOSA

GRADE LEVEL/POPULATION *Grades 9-12*

MATERIALS/RESOURCES

Bulimia Nervosa Fact Sheet
Pamphlet: EATING DISORDERS
(Source: National Institutes of Health, 5600 Fishers Lane, Room 15C-05, Rockville, MD 20857)

OBJECTIVES

By the end of the class period, the student will be able to:

1. identify at least three signs and symptoms of bulimia nervosa.
2. list three thoughts and three feelings that characterize persons with bulimia.
3. discuss five physical consequences of bulimia nervosa.

INTRODUCTION

Certain elements of U.S. culture—most notably the media and the fashion industry—encourage people to base their self-worth on body weight and shape. The average model today is size 4, whereas the average American women is size 12. Societal pressures to be thin can lead to eating disorders, such as anorexia nervosa and bulimia nervosa. Bulimia nervosa is a disease in which a person binges food and then purges it. Studies show that family history of obesity or depression, low self-esteem, social isolation, and obsession with body shape and weight are associated with bulimia. Bulimic practices tend to be secretive; there are not usually obvious symptoms. Bulimia is most common among college-aged students; approximately 1% to 4% of college-aged females suffer from bulimia. These usually are women who have attempted many weight-reduction diets throughout their teens. The purpose of this lesson to is enable teens to recognize the signs, symptoms, characteristics, and physical consequences of bulimia nervosa.

CONTENT

I. SIGNS AND SYMPTOMS OF BULIMIA NERVOSA

A. Eating to cope with emotional problems and stress when not hungry.
B. Binge eating is commonly precipitated by: stress; boredom; loneliness; depression.
C. Binge eating: large amounts of food are secretly consumed.
D. Purges: attempts to "undo" binges; includes vomiting, abusive exercising, fasting, or abusing laxatives and diuretics. Two signs of exercise addiction include resistance to cutting back on exercise when medical evidence suggests permanent damage could result and neglecting family, work/school responsibilities to spend time working out.
E. Attempt to diet after a binge. However, the diet produces periods of intense hunger, which often leads to more binges.
F. Bulimics may shoplift or commit other types of stealing to support binges.
G. Bulimics tend to engage in other compulsive and addictive activities, such as shopping, drinking alcohol, using drugs, and engaging in risky sexual behavior.

II. THOUGHTS AND FEELINGS OF BULIMICS

A. Out of control while binging
"When I start to eat, I don't think I can ever stop."

B. Embarrassed, guilty, ashamed, low self-esteem
"When I feel I've been bad, I punish myself by eating, starving, or purging my body."

C. Depressed, desperate, sometimes suicidal
"I eat to comfort myself when I'm sad or upset"
"Sometimes I get so depressed I feel like killing myself. Other times I get so anxious I feel like I'll explode. I numb these feelings by eating and then exhausting myself with exercise."

D. Fear of discovery
"I eat alone at night so no one will find out."

E. Lonely, want friends and relationships but fear emotional intimacy
"I want people to like me, but I'm afraid when they get too close."
"I eat when I'm lonely. I'm afraid to reach out to people, and I feel so empty. Food is love."

III. PHYSICAL CONSEQUENCES OF BINGE EATING AND PURGING

A. Weight fluctuations of alternating diets and binges
B. Swollen glands in neck under jaw -- "chipmunk cheeks"
C. Loss of tooth enamel causing teeth to decompose and fall out
D. Broken blood vessels in face; bags under eyes
E. Upset body's fluid mineral balance; can lead to weakness or cardiac arrest
F. Dehydration, fainting spells, tremors, blurred vision
G. Laxative dependency, damage to bowels
H. Indigestion, cramps, abdominal discomfort, bloating, gas, constipation
I. Liver and kidney damage
J. Death
   1. Heart attack
   2. Suicide

TEACHING/LEARNING ACTIVITIES

1. Lecture-discussion on content material; distribute Bulimia Nervosa Fact Sheet (20 minutes).

2. Form student groups with four or five per group. Ask each group to brainstorm common sources on women that exert pressure on them to be thin, and to list reasons why men are not as pressured. Ask one person from each group to share one response to each question in a round-robin fashion until all responses are exhausted. (20 minutes).

3. For a homework assignment, have students bring magazine advertisements that depict men and women to class. Have them analyze the size and weights of the models.

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EVALUATION

Have students write a 100-250 word essay on how stereotypical body types are encouraged in U.S. culture. Ask them to include illustrations from magazines, television, or other sources to illustrate the societal pressures that they include in their papers.

WRITING ASSESSMENT

Students will imagine that they are the parent/guardian of a teen-age girl who they suspect suffers from bulimia. They research bulimia to learn as much as possible in order to understand their daughter, and to help other parents. They write an article for a parent magazine explaining their experience with their daughter, how they helped her, and what other parents can do to recognize and prevent this problem.

NOTES:

Test Questions

1. Which of the following statement is false?
   A. Bulimics consume large amounts of food secretively
   B. Bulimic then try to undo the binge by vomiting or fasting
   C. Bulimics usually do not feel guilty after a binge
   D. Binges are often preceded by stress, loneliness, and boredom.

2. Which of the following is <u>not</u> a characteristic of a person with bulimia nervosa?
   A. Excessive dieting
   B. Accepts her body size
   C. Low self-esteem
   D. Feelings of guilt

3. Which of the following is a medical consequence of bulimia nervosa?
   A. Inflamed esophagus
   B. Build up of tooth enamel
   C. Shrunken salivary glands
   D. Back pain

4. Which of the following is true?
   A. Bulimics do not have a fear of being discovered.
   B. Bulimics seek emotional intimacy.
   C. Bulimics are in control when they binge.
   D. Bulimics are often depressed and suicidal.

5. What percentage of college-aged females suffer from bulimia?
   A. 1%-4%
   B. 6%-10%
   C. 15%-20%
   D. 20%-25%

Answer Key: C, B, A, D, A

FACTS ON BULIMIA NERVOSA

Definition:

- Recurrent binges (eating large volumes of food)
- Feeling out of control during binges
- Purges (vomiting, using laxatives or diuretics, fasting, and/or excessive exercise)
- Preoccupation with body shape or weight.

Incidence/Prevalence:

- Up to 5% of college-age women are bulimic
- Over 90% of patients are female.

Onset:

- Commonly begins in late teens or early twenties
- Often starts after a period of weight loss/dieting.

Risk factors:

- Excessive dieting
- Family or personal history of depression, alcoholism, or drug abuse
- Low self-esteem
- 50% of persons with anorexia are also bulimic
- 20% of bulimics have a history of anorexic episodes

Symptoms:

- Regular fluctuations in weight
- Depressed
- Consuming huge quantity of food in secret
- Eating normally in front of others, secretly binging and purging
- Guilt about binges

Medical Consequences:

• Heartburn • Abdominal pain • Vomiting blood • Electrolyte imbalance which can lead to weakness and cardiac arrest • Muscle weakness • Swollen parotid glands (chipmunk cheeks) • Inflamed esophagus • Loss of tooth enamel

Treatment:

• Medical evaluation • Individual and/or Group Psychotherapy • Nutritional Counseling- to avoid fasting and binges • Anti-depressant medications

STARVING FOR AN APPETITE: ANOREXIA NERVOSA

GRADE LEVEL/POPULATION *Grades 9-12*

MATERIALS AND RESOURCES

Anorexia Nervosa Fact Sheet
"Questions to Consider" overhead transparency
Pamphlet: EATING DISORDERS available from the
National Institutes of Health, 5600 Fishers Lane, Room 150-05,
Rockville, MD 20857

OBJECTIVES

By the end of the class period, the students will be able to:

1. Identify at least three sociocultural and individual risk factors associated with anorexia nervosa.
2. Describe typical family patterns associated with anorexia.
3. Identify the stereotypes that characterize models or actors/actresses and the influence that economic status may have on developing anorexia nervosa.
4. Identify at three signs and symptoms of anorexia nervosa.

INTRODUCTION

Anorexia nervosa literally means "loss of appetite." However, persons with anorexia are usually hungry but willfully starve themselves. These individuals usually exhibit depression and tend to be manipulative. They often lie about their food intake and conceal their eating behaviors. The motivation to be thin keeps a person with anorexia nervosa from eating. Studies document that 90% of all middle and high school students have attempted to diet. Teenaged youths are very impressionable. The current increase in eating disorders appears to be prevalent among adolescents involved in certain extracurricular activities, such as wrestling, cheerleading, pom-pom squads, and gymnastics. The majority of adolescents with anorexia nervosa are females; only 5-10% are males. The purpose of this lesson is to enable students to identify signs and symptoms of anorexia nervosa. In addition, students will analyze the societal, individual, and familial characteristics that influence the development of anorexia nervosa.

CONTENT

I. PSYCHONEUROTIC DISORDER CHARACTERIZED BY:

A. Intense fear of gaining weight or becoming fat
B. Distorted body image
C. Prolonged refusal to eat
D. Refusal to gain weight or maintain a healthy weight
E. Emotional stress and conflict
F. Three consecutively missed menstrual periods

II. INDIVIDUAL RISK FACTORS

A. Female
B. Adolescent
C. Slightly overweight
D. Subject to feelings of low self-esteem and ineffectiveness
E. Subject to conflicts and doubts about sense of personal autonomy and identity
F. Subject to bodily perceptual disturbances
G. Subject to an obsessional lifestyle

III. SOCIOCULTURAL RISK FACTORS

A. Intense concern for "thin ideal"
B. Equates thinness with beauty and happiness
C. Chronic dieting as a way of life
D. Media and fashion industry
   1. must have slim figure to be desirable and successful
   2. obese individuals stigmatized and shunned

IV. SOCIOECONOMIC RISK FACTORS

A. Upper-middle class; "White and wealthy"
B. Parents well-educated and influential
C. Higher education related to pressure to conform to social norms

V. PHYSICAL CONSEQUENCES OF PROLONGED DIETING

A. Hunger cravings and preoccupation with food
B. Dry, scaly skin; skin may be yellow or gray
C. Dull, brittle, thin hair
D. Loss of muscle tissue as well as fat; the person looks like a skeleton covered with skin
E. Loss of menstrual periods, and sometimes the inability to get pregnant
F. Icy hands and feet; person usually feels cold
G. Anemia (low number of red blood cells and iron in the blood that can make the person feel tired)
H. Loss of bone minerals (especially calcium), which increases the risk for osteoporosis
I. Constipation, digestive discomfort, abdominal bloating
J. Dehydration, muscle cramps, and tremors
K. Death (up to 20% of people with anorexia die)

LEARNING ACTIVITIES

1. Lecture-discussion on content and distribute "Anorexia Nervosa Fact Sheet" (attached). (20 minutes). Discuss the "Questions to Consider" transparency. (5 minutes).

2. Display pictures taken from different popular magazines (both for males and females). The teacher could provide or have the students bring these to class. Students could be asked to make collages using these pictures for display.

3. Discuss the following questions with the students:
   A. What are the characteristics that you admire about the individuals pictured? In what ways do you think these depictions of people influence you or your friends?
   B. What are the perceptions of people in general in this society about obese individuals and about individuals with anorexia nervosa?
   C. If you knew or suspected that someone had an eating disorder such as anorexia nervosa, would you talk to her or him about it? If so, what would say? (20 minutes).

EVALUATION

Ask the students to write out a description of a person with anorexia nervosa that includes characteristics and at least two examples of behaviors of that the person and ways the person feels. After a few minutes, ask the students to share their answers with the class. Next, have students role play how they would approach a friend they suspected was suffering with anorexia, including how they would encourage that friend to seek help from a trusted adult.

WRITING ASSIGNMENT

Students will write a fictitious short story about a teen-age girl suffering from anorexia nervosa. In that story, they should describe her thoughts and feelings about weight and body image-- those she keeps inside and some that she shares with friends and family. They should relate how she recovered from this disease with the help of supportive family, friends, and medical assistance.

NOTES:

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Test Questions

1. Which of the following is <u>not</u> a characteristic of anorexia nervosa?
   A. Distorted body image
   B. Regular menstrual periods
   C. Emotional stress and conflict
   D. Prolonged refusal to eat

2. Which of the following is an individual risk factor for anorexia nervosa?
   A. Perfectionist
   B. Male
   C. Pre-adolescent
   D. Only child

3. Which of the following is false?
   A. Up to 20% of people with anorexia nervosa die.
   B. People with anorexia nervosa are more likely to be a minority and of low socioeconomic status than they are to be white and wealthy.
   C. People with anorexia nervosa see chronic dieting as a way of life.
   D. A physical consequence of anorexia nervosa is having dull, brittle, thin hair.

4. Which of the following is not a physical consequence of prolonged dieting?
   A. Death
   B. Anemia
   C. Oily skin
   D. Loss of muscle tissue

5. Which of the following is a sociocultural risk factor of anorexia nervosa?
   A. Equate thinness with success.
   B. View "yo-yo" dieting as a way of life.
   C. Only care about what others think of them.
   D. Obese individuals in the media are shunned.

Answer Key: B, A, B, C, D

QUESTIONS TO CONSIDER

IF YOU THINK YOU OR A FRIEND MAY HAVE AN EATING DISORDER

1. Are you anxious before eating?

2. Are you preoccupied by thought of food and dieting throughout the day?

3. Do you weigh yourself several times a day?

4. Do your clothes, that once fit you well, fit very poorly?

More Questions To Consider...

5. Do you believe that being in control of your food shows people that you are in control of yourself?

6. Do you believe that you must have a slim figure to be desirable and successful?

7. Are emotions and feelings rarely openly expressed in your family?

8. Do you have a very low level of self-confidence?

FACTS ON ANOREXIA NERVOSA

Definition

- Intense fear of gaining weight
- Distorted body image (see themselves as fat even when they are skin and bones)
- Loss of weight or failure to gain weight, resulting in being 15% or more under desirable body weight; many are 20% to 40% below desirable weight
- Absence of menstruation for three months in girls old enough to have periods and not on birth control pills.

Incidence/Prevalence

- 1 in 250 teenage girls between ages 12 and 18 become anorexic
- Over 90% of patients are female
- Likely to occur to girls from white, middle- and upper-income families.

Onset

Peak times of onset are at age 12-13 and age 17

Risk Factors

- Alcoholism or depression in the family
- Early puberty or tallness
- Being a perfectionist
- Low self-esteem.

Symptoms

• Preoccupations with food and weight • Secrecy about eating or dieting
• Excessive exercise • Overly fatigued • Sleep disruption • Feeling cold all the time
• Vomits or use laxative to control weight.

Medical Consequences

• Cessation of menstrual cycle • Iron deficiency anemia • Loss of bone density which leads to osteoporosis • Low blood pressure and slower pulse • Smaller, weaker heart
• Low white blood cell count • Growth of fine body hair (lanugo) • Rough, dry, scaly skin
• Bluish hands and feet (acrocyanosis) • Constipation • Loss of muscle mass
• Slowed metabolism and slower reflexes • Loss of teeth enamel from vomiting.

Treatment

• Medical team approach (including physicians, registered dietitians, psychologists or psychiatrists, and other health professionals) • Psychotherapy (individual and/or family) to resolve conflicts and improve self-esteem • Nutritional counseling • Hospitalization may be needed • Tube feeding.

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ADDITIONAL RESOURCES

EATING HEALTHY WITH THE FOOD GUIDE PYRAMID

Dairy Council of Wisconsin
999 Oakmont Plaza Drive #510
Westmont, IL 60559

National Dairy Council - Order Dept.
10255 W. Higgins Road, Suite 900
Rosemont, IL 60018-5616

READING FOOD LABELS

Educational kit: *Label Facts for Healthful Eating*
The Mazer Corporation
Creative Services Division
2501 Neff Road
Dayton, OH 45414
(513) 276-6181 ext. 216

FDA/USDA Food Labeling Education Information Center
National Agricultural Library
10301 Baltimore Blvd, Room 304
Beltsville, MD 20705-2351
(301) 504-5719

Article: *Focus on Food Labeling* (FDA 93-2262)
Superintendent of Documents
PO Box 371954
Pittsburgh, PA 15250-7594

Fact sheet: *Introducing the New Food Label in Bite-Size Pieces*
Send a SASE business envelope to:
ADA/NCND
216 West Jackson Blvd.
Chicago, IL 60606-6995

Article: *"The New Food Label: Scouting for Sodium"*
FDA Consumer Magazine
September 1994
Publication No. (FDA) 95-2284

Pamphlet: *"Read the Label, Set a Table: How the New Food Label Can Help You Plan a Healthy Diet"*
Department of Health & Human Services
Public Health Service
Food and Drug Administration
DHHS Publication No. (FDA) 94-2273

Pamphlet: *"Using the New Food Label to Choose Healthier Foods"*
Dept. of Health & Human Services Food and Drug Administration
US Dept of Agriculture
Food Safety & Inspection Service
Publication No. (FDA) 94-2276
Article: *"Answers to Consumer Questions About the Food Label"*
FDA Consumer Magazine
June 1995

Article: *"Labeling Rules for Young Children's Food"*
FDA Consumer Magazine
May 1995
Publication No. (FDA) 95-2292

EATING HEALTHY ON THE RUN

Nutrition Action Health Letter
Center for Science in the Public Interest
Suite 300, 1875 Connecticut Ave, N.W.
Washington D.C., 20009-5728
$24/Year (10 issues)

Food Insight
Suite 430, 1100 Connecticut Ave. N.W.
Washington D.C., 20036

Dine Healthy (Computer Program)
Dine Systems, Inc.
568 N. French Road
Amherst, N.Y. 14228
(716) 688-2400
Approx. $99.00

Consumer Reports
August '94, August '95

HEALTHY VEGETARIAN DIETS

"Eating Well: The Vegetarian Way"
The American Dietetic Association
216 West Jackson Blvd.
Chicago, IL 60606-6995
(312) 899-0040

"Vegetarian Nutrition for Teenagers!"
The Vegetarian Resource Group
Box 1463T
Baltimore, MD 21203

DIET AND HYPERTENSION/ DIET AND HEART DISEASE

Article: *The New Food Label: Scouting for Sodium*
FDA Consumer Magazine
September 1994
Publication No. (FDA) 95-2284

10 Tips to Healthy Eating
Publication No. (EB-2005)
IFIC Foundation
Suite 430, 1100 Connecticut Ave., N.W.
Washington D.C., 20036

DIET AND CANCER

Cancer Information Service
Office of Cancer Communications
National Cancer Institute
Building 31, Room 10A16
9000 Rockville Pike
Bethesda, MD 20892

STARVING FOR AN APPETITE: ANOREXIA NERVOSA/ ACTING ON BULIMIA NERVOSA/COMPULSIVE OVEREATING

Pamphlet: *"Eating Disorders"*
National Institutes of Health
5600 Fishers Lane, Room 150-05
Rockville, MD 20857

National Anorexic Aid Society
1925 East Dublin Granville Road
Columbus, OH 43229
(614) 436-1112

Anorexia Nervosa and Related Eating Disorders, Inc.
P. O. Box 5102
Eugene, OR 97405
(503) 344-1144

Gurze Eating Disorders Bookshelf Catalog
Burze Books
PO Box 2238
Carlsbad, CA 92018
(619) 434-7533
(619) 434 5476 (Fax)

American Anorexia/Bulimia Association, Inc.,
418 East 76th Street
New York, NY 10021
(212) 734-1114

To Request A...
FOOD & NUTRITION RESOURCE CENTER MATERIALS CATALOG

Contact:

Food & Nutrition Resource Center
Florida Department of Education
Room 206 Executive Building
908 S. Bronough Street
Tallahassee, FL 32399-0400

Phone: (904) 487-3569
Suncom: 277-3569
FAX: (904) 921-2766
Suncom FAX: 291-2766

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